

April 11, 2006

Mr. Noman Chowdhury
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Subject: First Quarter 2006 Site Conceptual Model Update
Mobil Station 18MLJ
5005 North Long Beach Boulevard
Long Beach, California
CRWQCB Case No. 908050452A

Mr. Chowdhury:

At the request of ExxonMobil Oil Corporation (ExxonMobil), Environmental Resolutions, Inc. is submitting the First Quarter 2006 ExxonMobil Groundwater Monitoring and Status Report for the above-referenced site. The format utilized for the report consolidates groundwater sampling (where applicable), Title 23, Subchapter 16 reporting and consultant progress updates for ExxonMobil into one summary report.

Please call me at (949) 457-8954 if you have any questions.

Sincerely,
Environmental Resolutions, Inc.

George E. Salley
George E. Salley
Senior Project Geologist
P.G. 6308

Cc: Mr. Gene N. Ortega, ExxonMobil
Ms. Carmen Piro, Long Beach Department of Health and Human Services

3163
EXNQTRLY
Date: April 11, 2006

**EXXONMOBIL OIL CORPORATION (EXXONMOBIL)
SITE CONCEPTUAL MODEL UPDATE**

Site Status: Active Mobil Station

Station Number: 18MLJ Address:

ExxonMobil Environmental Engineer:

Consulting Company/Contact Person:

Primary Agency:

5005 North Long Beach Boulevard, Long Beach, CA

Mr. Gene N. Ortega

Environmental Resolutions, Inc. (ERI)/George E. Salley

Mr. Noman Chowdhury, California Regional Water Quality

Control Board - Los Angeles Region (CRWQCB)

320 West 4th Street, Suite 200, Los Angeles, CA 90013

Ms. Carmen Piro

Long Beach Department of Health and Human Services

2525 Grand Avenue, Long Beach, CA 90815

Other Agencies to Receive Copies:

WORK PERFORMED THIS QUARTER [First - 2006]:

- o 1/13/06 – Submitted the quarterly site conceptual model update for the fourth quarter 2005.
- o 1/19-20/06 – ERI supervised the drilling and sampling of soil borings B12 and B13 which were completed as air sparge/soil vapor extraction (AS/SVE) wells AS/SVE5 and AS/SVE6, respectively.
- o 1/24/06 – The CRWQCB issued a letter to ExxonMobil approving the final remedial action plan (FRAP) submitted by ExxonMobil in October 2005. The CRWQCB letter also requested additional information to supplement the FRAP.
- o 1/26/06 – Performed quarterly purge groundwater monitoring and sampling. Properly disposed of purge water at Crosby & Overton of Long Beach, California, under a non-hazardous waste manifest (attached).
- o 1/31/06 – ExxonMobil submitted a letter to the CRWQCB including the additional information requested in the approval letter. The additional information included details of the AS/SVE feasibility test, alternative cleanup methodologies, a remedial design package, an estimate of annual costs for operation and maintenance of the system, and estimated timelines for implementation and completion of remediation.

WORK PROPOSED FOR NEXT QUARTER [Second - 2006]:

- o Perform quarterly purge groundwater monitoring and sampling.
- o Submit a quarterly site conceptual model update.
- o Obtain approval from the CRWQCB to proceed with the remediation technique proposed in the RAP.

Current Phase of Project:

Monitoring and sampling / Remediation

Frequency of Monitoring and Sampling:

Quarterly

Is LPH Present on Site:

No

Cumulative LPH Recovered to Date:

None

Water Wells or Surface Waters within 1000'

None

& Their Respective Directions:

NA

Permits for Discharge:

Pending construction of AS/SVE remediation system

Current Remediation Techniques:

26 to 28 feet bgs – measured on 1/26/06

Depth to Groundwater:

SITE CONCEPTUAL MODEL UPDATE

The preliminary site conceptual model (PSCM) for this case was prepared by ExxonMobil and submitted to the CRWQCB on September 13, 2005. The following sections provide an update to the PSCM based on the most recent data obtained at the site.

SITE DESCRIPTION

The subject site is an active Mobil service station which sells Mobil-branded gasoline, located at the northwestern corner of North Long Beach Boulevard and Del Amo Boulevard in Long Beach, California (Site Location Map, Plate 1). The site facilities consist of a service station building containing a Mobil Mart food store. The fueling system consists of three unleaded-gasoline underground storage tanks (USTs), one diesel UST, seven fuel dispensers (six gasoline and one diesel), and the associated product piping. The locations of the fueling system components, as well as the locations of soil borings, groundwater monitoring wells, and other relevant site features, are shown on the Generalized Site Plan (Plate 2).

The area surrounding the site consists of commercial businesses, apartments and residential housing. A Chevron service station is located south of the site across Del Amo Boulevard. A Shell service station is located on the southeastern corner. A 7-Eleven food store and a McDonald's restaurant are located on the northeastern corner of the intersection. The vacant lot directly north of the site is being currently developed as an elementary school. The area surrounding the site is shown on the Aerial Photo Map (Plate 3).

BACKGROUND

The following is a brief description of the previous work conducted at the site. For detailed information, refer to the reports listed in the reference section of this site conceptual model update (SCMU). The locations of the soil borings, groundwater monitoring wells, and remediation wells drilled and installed during the previous work at the site plus other relevant site features are shown on Plate 2. The analytical results from soil sampling conducted during previous investigations are presented in Table 1. Groundwater monitoring and sampling data for the first quarter 2006 is summarized in Table 2. The cumulative water level measurements and groundwater analytical results are presented in Table 3.

Subsurface Investigations

In August 1989, American Environmental Management Corporation (AEM) conducted a site assessment that consisted of drilling and sampling six soil borings, and completing three of the soil borings as groundwater monitoring wells (AEM, 1989). The results of this investigation prompted the City of Long Beach Department of Health and Human Services (LBDHHS) to transfer the case to the CRWQCB for further review and oversight. The case was transferred on October 4, 1989, and the CRWQCB issued case file No. 908050452 to this site. Subsequent to the transfer of this case to the CRWQCB, additional site assessment and remedial testing activities were performed at the site which resulted in the installation of nine groundwater monitoring wells (five on site and four off site), three on-site air sparge wells and two on-site vapor extraction wells. Quarterly groundwater monitoring was conducted at the site from first quarter 1993 through second quarter 1996 (TRAK Environmental Group, 1996). During this time period, depth to groundwater ranged from approximately 27 to 36 feet bgs, and the groundwater flow direction was consistently toward the southwest. On July 23, 1996, the CRWQCB issued an Underground Storage Tank Case Closure Letter, and required that all wells be properly destroyed. On November 11, 1996, Remedial Management Corporation (RMC) submitted a well abandonment report stating that all of the wells (on site and off site) had been abandoned by pressure grouting (RMC, 1996).

In January 2001, H.B. Covey of Pomona, California, conducted a fueling system upgrade at the site. The upgrade consisted of removing and replacing the fuel dispensers and related product piping. FREY Environmental, Inc. (FREY) of Newport Beach, California, performed soil sampling activities in conjunction with the fueling system upgrade. FREY personnel collected soil samples from six locations

adjacent to the fuel dispensers and from one location adjacent to the product piping. Methyl tertiary butyl ether (MTBE) in soil was measured at a maximum concentration of 50 milligrams per kilogram. (FREY, 2001)

ExxonMobil transferred environmental consulting responsibilities for this site to ERI in October 2002. In subsequent case reviews between ExxonMobil and ERI, a decision was made to assess the condition of soil and groundwater beneath the site. This decision was based on the concentrations of fuel oxygenates in soil detected during the aforementioned fueling system upgrade, and the juxtaposition of sensitive receptors in the area. In February 2003, ExxonMobil submitted a work plan for the installation of three groundwater monitoring wells at the site.

In April 2003, ERI conducted an initial site assessment which consisted of drilling and sampling soil borings B1 through B3. Borings B1 and B2 were completed as groundwater monitoring wells MW1 and MW2, respectively. Boring B3 was completed as dual-completion groundwater monitoring/soil vapor extraction well MW3. During this investigation, groundwater was first encountered at approximately 30 feet bgs. The data presented in this report resulted in the LBDHHS transferring the case to the CRWQCB for further review and oversight. (ERI, 2003)

In October 2004, ERI conducted an additional site assessment which consisted of drilling and sampling off-site soil borings B4 through B6. The borings were completed as groundwater monitoring wells MW4 through MW6, respectively. The purpose of this investigation was to provide off-site delineation of fuel constituent concentrations in soil and groundwater. (ERI, 2004)

In March 2005, ERI drilled and sampled on-site boring B7 which was completed as groundwater monitoring well MW7. This well was installed to provide upgradient delineation in the northeastern portion of the site. (ERI, April 14, 2005)

In March 2005, ExxonMobil submitted an interim remedial action plan (IRAP) to the CRWQCB for an AS/SVE feasibility study at the site. The CRWQCB submitted a letter to ExxonMobil dated May 9, 2005 granting approval of the IRAP. In response to the approval, ERI drilled and installed remediation wells AS/SVE1 through AS/SVE4 in May 2005. The details of the interim remedial action were reported in the final RAP (FRAP) dated October 14, 2005. The FRAP proposed the installation and operation of a temporary fixed-base AS/SVE remediation system. The proposed system would utilize remediation wells AS/SVE1 through AS/SVE4, and two additional proposed AS/SVE wells.

In January 2006, in accordance with a verbal approval from the CRWQCB, ERI proceeded with the installation of the two additional AS/SVE wells proposed in the FRAP. ERI utilized the services of J&H Drilling Company of Anaheim, California to drill and sample soil borings B12 and B13 which were completed as wells AS/SVE5 and AS/SVE6, respectively. During drilling, soil samples were collected at 5-foot intervals from approximately 10 feet bgs to the total depth of each boring. Soil boring logs containing well construction details are provided with this SCMU.

On January 24, 2006, the CRWQCB issued a letter to ExxonMobil approving the FRAP and requesting additional information to supplement the FRAP. On January 31, 2006, ERI on behalf of ExxonMobil submitted a letter to the CRWQCB acknowledging the approval of the FRAP and providing the additional requested information.

Remediation

According to FREY, approximately 75 tons of hydrocarbon affected soil was generated during the aforementioned January 2001 fueling system upgrade project. The soil was removed from the site and transported for recycling to TPS Technologies, Inc.'s approved facility in Adelanto, California.

Since quarterly groundwater monitoring and sampling began in the second quarter 2003, a total of approximately 2,062 gallons of groundwater has been purged from the site wells. The purge water was transported to Crosby & Overton's (C&O) permitted facility in Long Beach, California, for disposal.

Quarterly Monitoring

Quarterly groundwater monitoring and sampling has been conducted at the site since the second quarter 2003. During that time, the average depth to groundwater at the site has been approximately 29 feet bgs, and groundwater flow direction has been toward the southwest. The most recent quarterly groundwater monitoring and sampling event took place on January 26, 2006. Compared to the average groundwater depth for the site, the depth to groundwater has decreased by approximately 2 feet. The maximum concentrations of benzene, total petroleum hydrocarbons as gasoline (TPHg), and MTBE were detected in well MW2 at concentrations of 76.3 micrograms per liter ($\mu\text{g/l}$), 5,970 $\mu\text{g/l}$ and 1,980 $\mu\text{g/l}$, respectively. The maximum concentration of tertiary butyl alcohol (TBA) was observed in well MW4 at 8,700 $\mu\text{g/l}$.

Groundwater gauging data for the first quarter 2006 is shown on the Groundwater Elevation Contour Map – 1/26/06 (Plate 4). Groundwater sampling data for benzene, TPHg, MTBE and TBA for the first quarter 2006 are shown on the isopleth concentration maps (Plates 5 through 8, respectively).

SENSITIVE RECEPTOR SURVEY

Sensitive receptors include water supply wells, schools, hospitals and surface water bodies within a 1-mile radius of the site. ERI performed a search to identify any water supply wells, schools, hospitals and surface water bodies within the sensitive receptor survey area. Each receptor identified by this survey is depicted on the Sensitive Receptor Map (Plate 9).

The closest water supply wells to the site are wells 905L and 906B, located approximately 2,170 feet southwest and 2,270 feet south of the site, respectively. A new elementary school is currently being constructed directly adjacent to the northern property line of the site, and the closest surface water body is the Los Angeles River which is located approximately 0.4 miles west of the site.

PLUME TRAVEL TIME ESTIMATE

The original plume travel time estimate (PTTE) was prepared by ERI using the CRWQCB's Non-Steady State Spreadsheet Analytical Model to evaluate the travel time for MTBE to reach the closest sensitive receptor to the site, and was submitted to the CRWQCB on September 13, 2005. As stated, the closest sensitive receptor is active production well 905L, located approximately 2,170 feet southwest of the site. This well is also designated as California State Well No. 4S13W12E01. The screened interval for the production well is reported to be from 360.5 feet bgs to 375.5 feet bgs. The location of the production well places it in line with the groundwater flow direction exhibited for this site. On-site well MW2 and off-site well MW5 generally fit the CRWQCB's modeling criteria that MTBE concentrations increase then decrease over time.

ERI used reasonable value ranges for groundwater velocity and dispersivity, based on site information, to match the concentration curves in wells MW2 and MW5. Based on the ranges of values for these parameters, and the conservative assumption that the drinking water well (point of exposure) is directly downgradient, the model predicts that an MTBE concentration of 5 micrograms per liter would occur at the aforementioned drinking water well in 91 years. Please note that the CRWQCB model is predicated on the assumption that the data truly denote a peak, that the peaks are not due to other groundwater dynamics (such as elevation changes), and that the two peaks modeled are from the same instantaneous release. Given that there are only three data points for monitoring well MW5, not all of these assumptions may be correct for this site.

It is ERI's opinion that no atypical site-specific conditions, with regard to transport, exist and that the site conditions pose little risk to the aforementioned point of exposure. It is also ERI's opinion that this model does not allow for a unique solution to the fuel constituent transport question. The model does not take into account the presence of aquitards between the shallow affected groundwater and the aquifers from which the supply well is pumping. Also, the model does not allow for the effects of natural attenuation (except dispersion) during transport. These two criteria would act to increase the time it would take for MTBE to reach the supply well, and would diminish the concentration of MTBE that finally reached the

well (if any). In accordance with the CRWQCB requirements, the data contained in the model will be updated annually (during the second quarter), or as necessary based on changes in site conditions.

CONCLUSIONS

The site conceptual model for Mobil Station 18MLJ is that of a two-release scenario. This consists of an older release of fuel constituents that does not contain fuel oxygenates and a separate newer release that does contain fuel oxygenates. The old release is believed to have occurred prior to the case closure granted in 1996. The more recent release contains concentrations of fuel oxygenates originally prevalent in shallow soil at the site. Based on the quarterly groundwater sampling results to date, the fuel oxygenates detected in the shallow soil are now affecting the groundwater bearing zone.

Please call Mr. George E. Salley at (949) 457-8954 for any questions regarding this report.



Respectfully Submitted,
Environmental Resolutions, Inc.

A handwritten signature in black ink that reads "George E. Salley".

George E. Salley
Senior Project Geologist
P.G. 6308

ATTACHED:

- o Site Location Map (Plate 1)
- o Generalized Site Plan (Plate 2)
- o Aerial Photo Map (Plate 3)
- o Groundwater Elevation Contour Map – 1/26/06 (Plate 4)
- o Benzene Groundwater Isopleth Concentration Map – 1/26/06 (Plate 5)
- o TPHg Groundwater Isopleth Concentration Map – 1/26/06 (Plate 6)
- o MTBE Groundwater Isopleth Concentration Map – 1/26/06 (Plate 7)
- o TBA Groundwater Isopleth Concentration Map – 1/26/06 (Plate 8)
- o Sensitive Receptor Map (Plate 9)
- o Cumulative Soil Analytical Results (Table 1)
- o Water Level Measurements and Groundwater Analyses (Table 2)
- o Cumulative Water Level Measurements and Groundwater Analyses (Table 3)
- o Non-Steady State Transport Model Spreadsheet
- o Boring Logs
- o Laboratory Report and Chain-of-Custody Record
- o Purging and Sampling Records
- o Purging and Sampling Protocol

REFERENCES

American Environmental Management, August 1989, Site Assessment, Mobil Station, 5005 Long Beach Boulevard, Long Beach, California.

California Department of Water Resources, June 1961 (reprinted May 1990), Bulletin Number 104, Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County, Appendix A, Ground Water Geology.

California Regional Water Quality Control Board – Los Angeles Region, July 23, 1996, Underground Storage Tank Case Closure, Mobil Service Station 18-MLJ, 5005 Long Beach Boulevard, Long Beach.

Environmental Resolutions, Inc., June 9, 2003, Letter Report for the Installation of Three Groundwater Monitoring Wells at Mobil Station 18-MLJ, 5005 North Long Beach Boulevard, Long Beach, California.

Environmental Resolutions, Inc., December 23, 2004, Groundwater Monitoring Well Installation Report, Mobil Station 18MLJ, 5005 North Long Beach Boulevard, Long Beach, California.

Environmental Resolutions, Inc., April 14, 2005, Groundwater Monitoring Well Installation Report, Mobil Station 18MLJ, 5005 North Long Beach Boulevard, Long Beach, California.

Environmental Resolutions, Inc., July 15, 2005, Quarterly Report for the Second Quarter 2005, Mobil Station 18MLJ, 5005 North Long Beach Boulevard, Long Beach, California.

Environmental Resolutions, Inc., September 13, 2005, Preliminary Site Conceptual Model, Site Characterization Report & Plume Travel Time Estimate, Mobil Station 18MLJ, 5005 North Long Beach Boulevard, Long Beach, California.

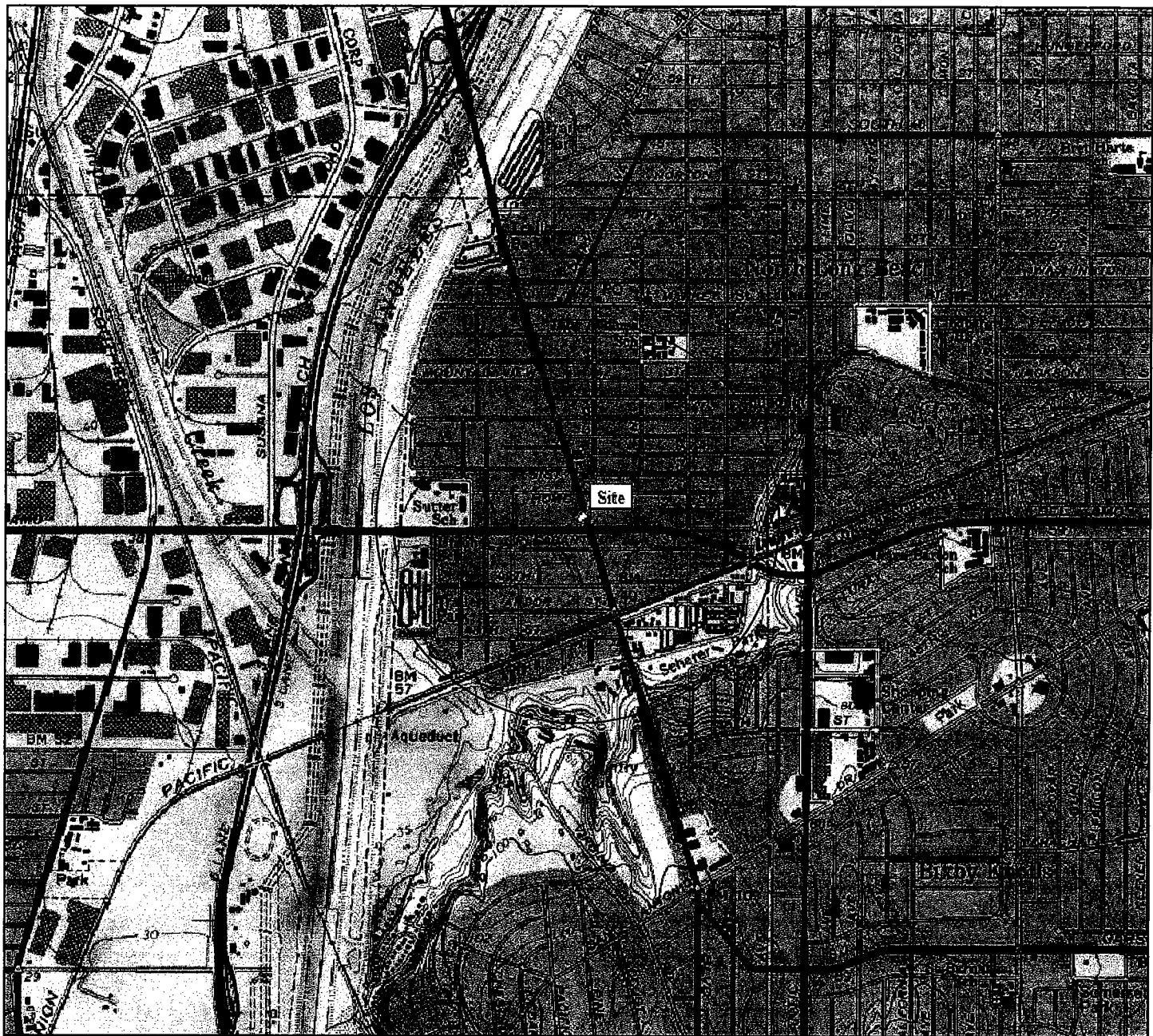
Environmental Resolutions, Inc., October 14, 2005, Remedial Action Plan, Mobil Station 18MLJ, 5005 North Long Beach Boulevard, Long Beach, California.

FREY Environmental, Inc., March 19, 2001, Fuel Dispensing Complex Soil Sampling, Mobil Service Station #18-MLJ, 5005 N. Long Beach Boulevard, Long Beach, California.

Remedial Management Corporation, November 11, 1996, Abandonment of Groundwater Monitoring, Sparge, and Vapor Extraction Wells, Mobil Station 11-MLJ, 5005 Long Beach Boulevard, Long Beach, California.

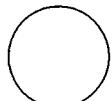
TRAK Environmental Group, Inc., July 25, 1996, Quarterly Progress Report, Second Quarter 1996, Mobil Service Station 11-MLJ, 5005 Long Beach Boulevard, Long Beach, California.

United States Geological Survey, 1964 (photorevised 1981), Long Beach, California, Quadrangle, 7.5 Minute Series Topographic Map.



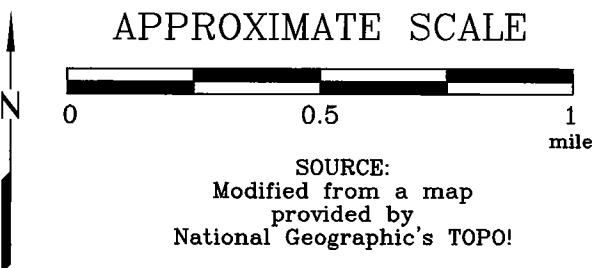
FN 3163TOPO

EXPLANATION



1/2-mile radius circle

APPROXIMATE SCALE



SITE LOCATION MAP

MOBIL STATION 18MLJ
5005 North Long Beach Boulevard
Long Beach, California

PROJECT NO.

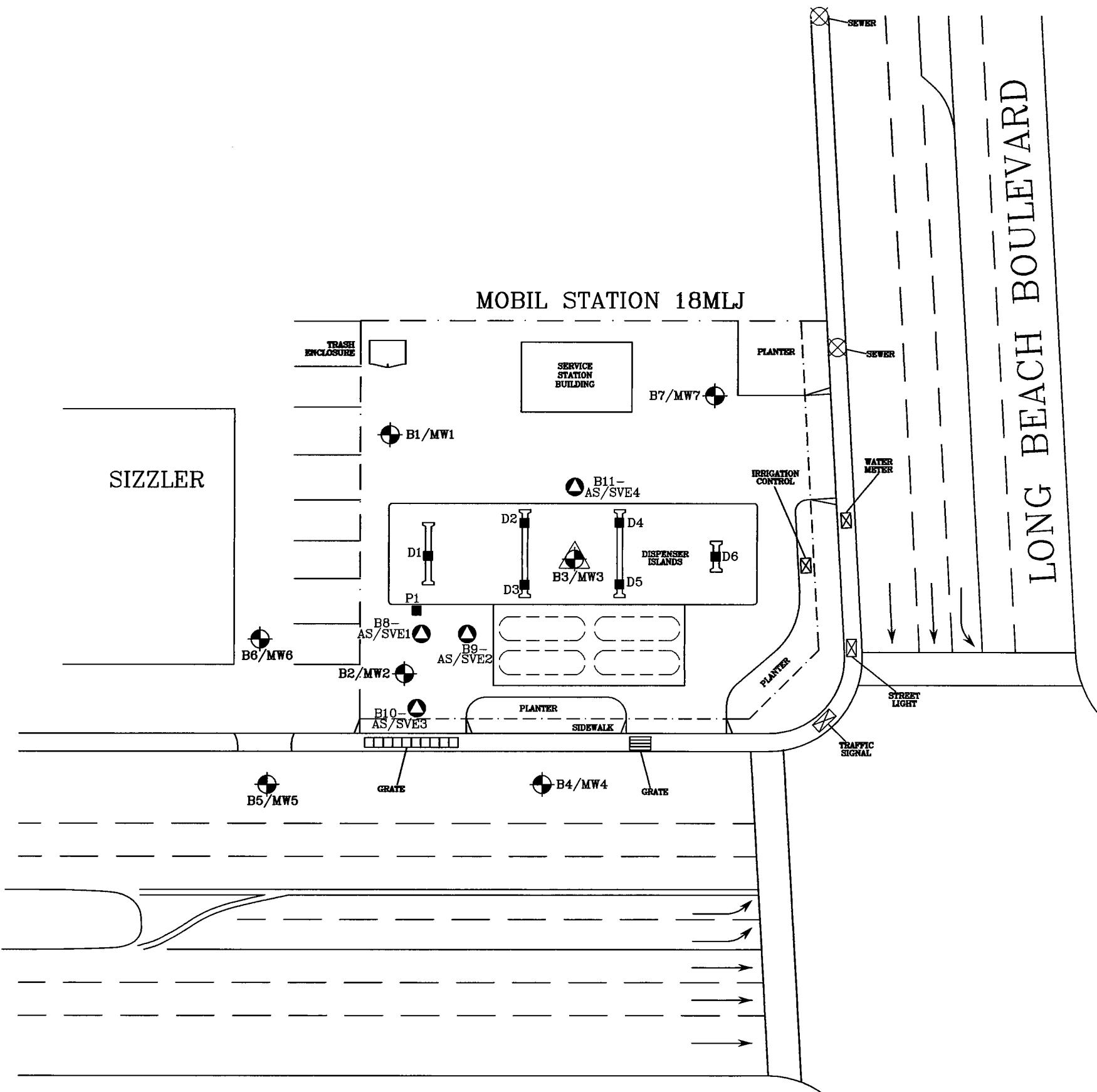
3163

PLATE

1

EXPLANATION

- B7/MW7 Groundwater monitoring well
- ▲ B3/MW3 Groundwater monitoring/vadose zone well
- ◆ B11-AS/SVE4 Air sparge/soil vapor extraction well
- D6 Soil sample location (FREY Environmental, 1991)
- (---) Underground storage tank



GENERALIZED SITE PLAN

MOBIL STATION 18MLJ
5005 North Long Beach Boulevard
Long Beach, California

FN 31630004	PROJECT NO.
	3163
ERI	PLATE
ENVIRONMENTAL RESOLUTIONS, INC.	2

DATE: 04/08/06



LEGEND

- C/I Commercial / Industrial
- Parking Lot
- Vacant Lot

WELLS

There are no public or private wells within a 300m radius. See the Site Location Map for well locations

RESIDENCES

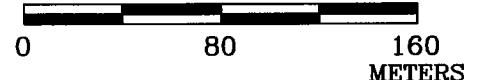
- ① 16 West Del Amo Boulevard (Single Family)
- ② 18 West Del Amo Boulevard (Single Family)
- ③ 22 West Del Amo Boulevard (Single Family)
- ④ 24 West Del Amo Boulevard (Single Family)
- ⑤ 225 East Del Amo Boulevard (Multi-Family)

PUBLIC USE AREAS

There are no public use areas.



APPROXIMATE SCALE



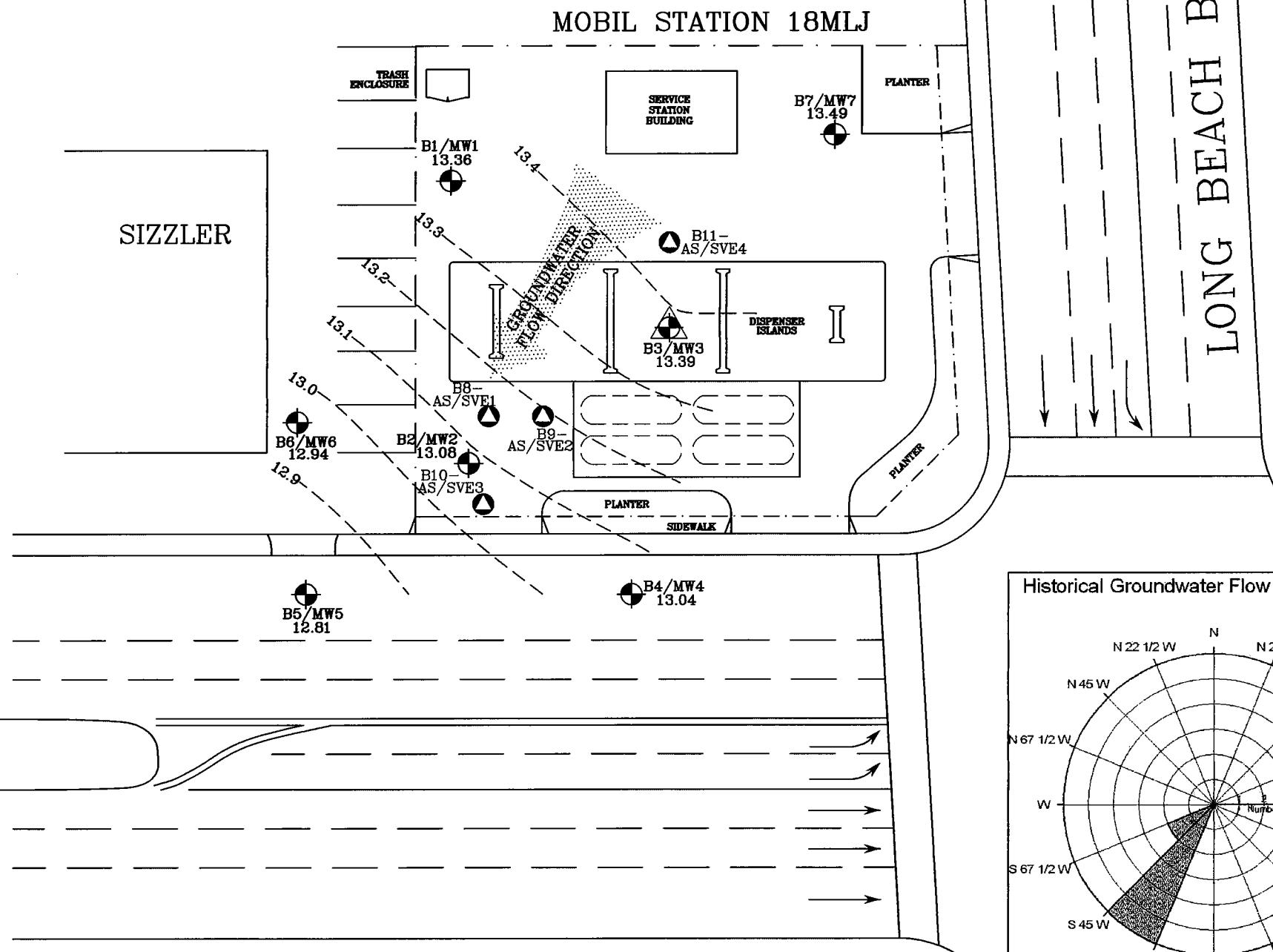
AERIAL PHOTO MAP

MOBIL STATION 18MLJ
5005 North Long Beach Boulevard
Long Beach, California

FN 3163RSSVM	PROJECT NO.
	3163
	PLATE
3	DATE: 04/08/06

EXPLANATION

- B7/MW7 Groundwater monitoring well
- ▲ B3/MW3 Groundwater monitoring/vadose zone well
- B11-AS/SVE4 Air sparge/soil vapor extraction well
- (---) Underground storage tank
- 13.49 Groundwater elevation (feet, relative to mean sea level)
- - - Line of equal groundwater elevation

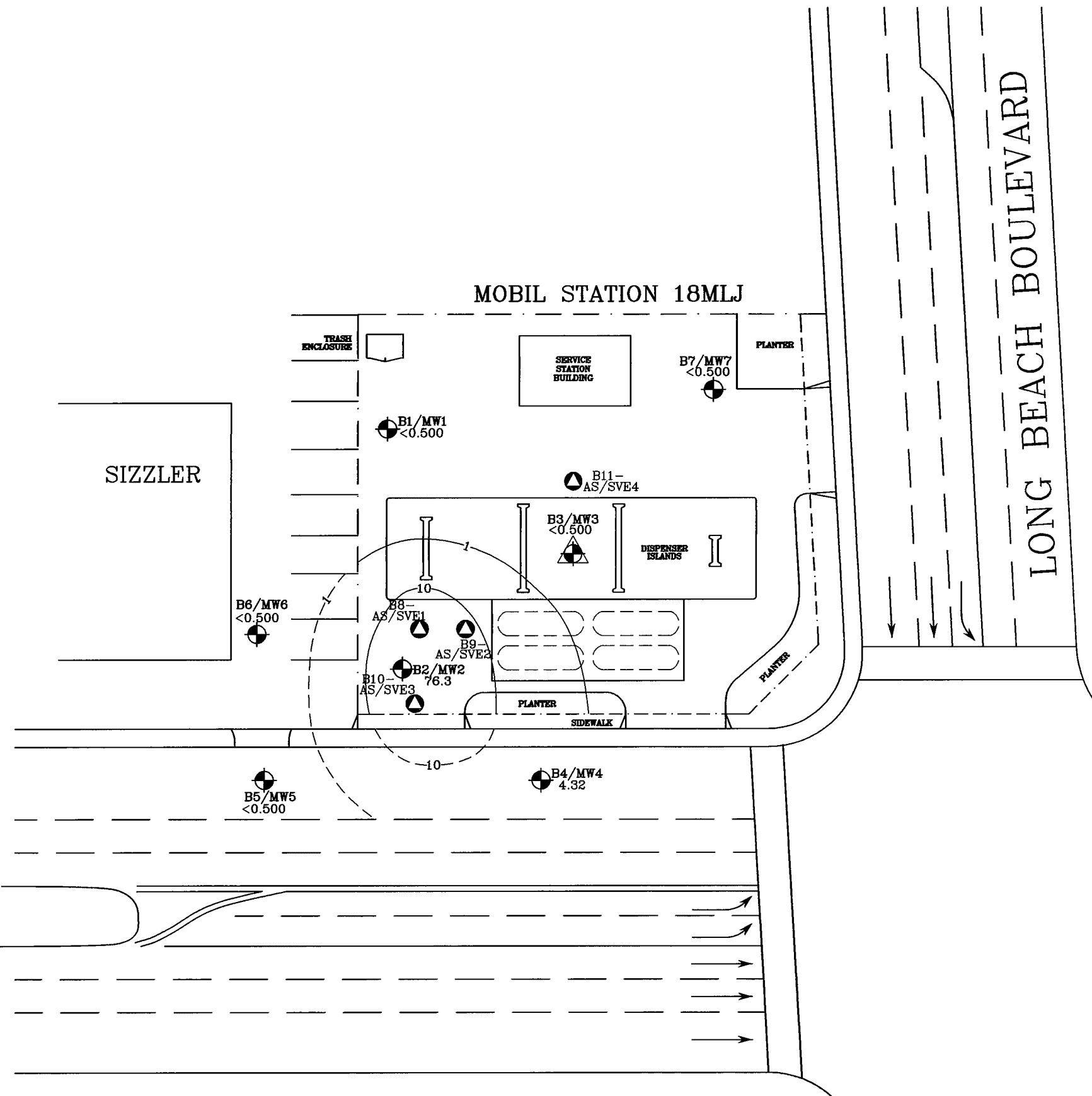


GROUNDWATER ELEVATION CONTOUR MAP 01/26/06

MOBIL STATION 18MLJ
5005 North Long Beach Boulevard
Long Beach, California

FN 31630004	PROJECT NO.
	3163
ERI	PLATE
ENVIRONMENTAL RESOLUTIONS, INC.	4

DATE: 03/21/06



EXPLANATION

- B7/MW7 Groundwater monitoring well
- ▲ B3/MW3 Groundwater monitoring/vadose zone well
- B11-AS/SVE4 Air sparge/soil vapor extraction well
- (---) Underground storage tank
- 76.3 Benzene concentration in micrograms per liter
- <0.500 Less than the stated laboratory reporting limit
- Line of equal benzene concentration (dashed where inferred)

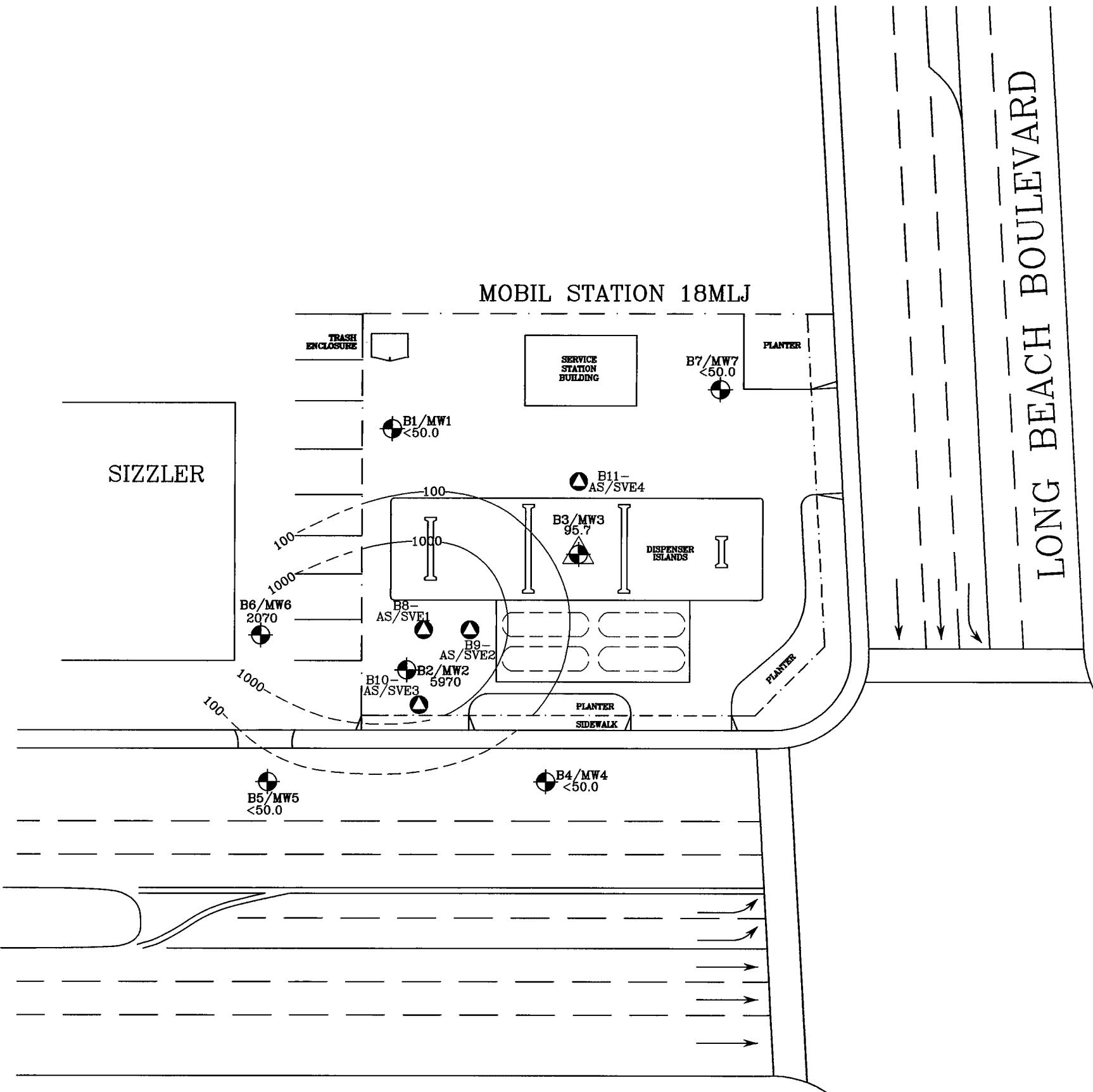
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APPROXIMATE SCALE
0 40 80 FEET

BENZENE GROUNDWATER ISOPLETH CONCENTRATION MAP 01/26/06

MOBIL STATION 18MLJ
5005 North Long Beach Boulevard
Long Beach, California

FN 31630004	PROJECT NO. 3163
	PLATE 5
	DATE: 03/21/06

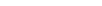


EXPLANATION

- B7/MW7 Groundwater monitoring well
 - ▲ B3/MW3 Groundwater monitoring/vadose zone well
 - ▲ B11— AS/SVE4 Air sparge/soil vapor extraction well
 - (---) Underground storage tank
 - 5970 TPHg concentration in micrograms per liter
 - <50.0 Less than the stated laboratory reporting limit
 - Line of equal TPHg concentration (dashed where inferred)

N —

APPROXIMATE SCALE



0 40 80
FEET

TPHg GROUNDWATER ISOPLETH CONCENTRATION MAP 01/26/06

MOBIL STATION 18MLJ
5005 North Long Beach Boulevard
Long Beach, California

FN 31630004

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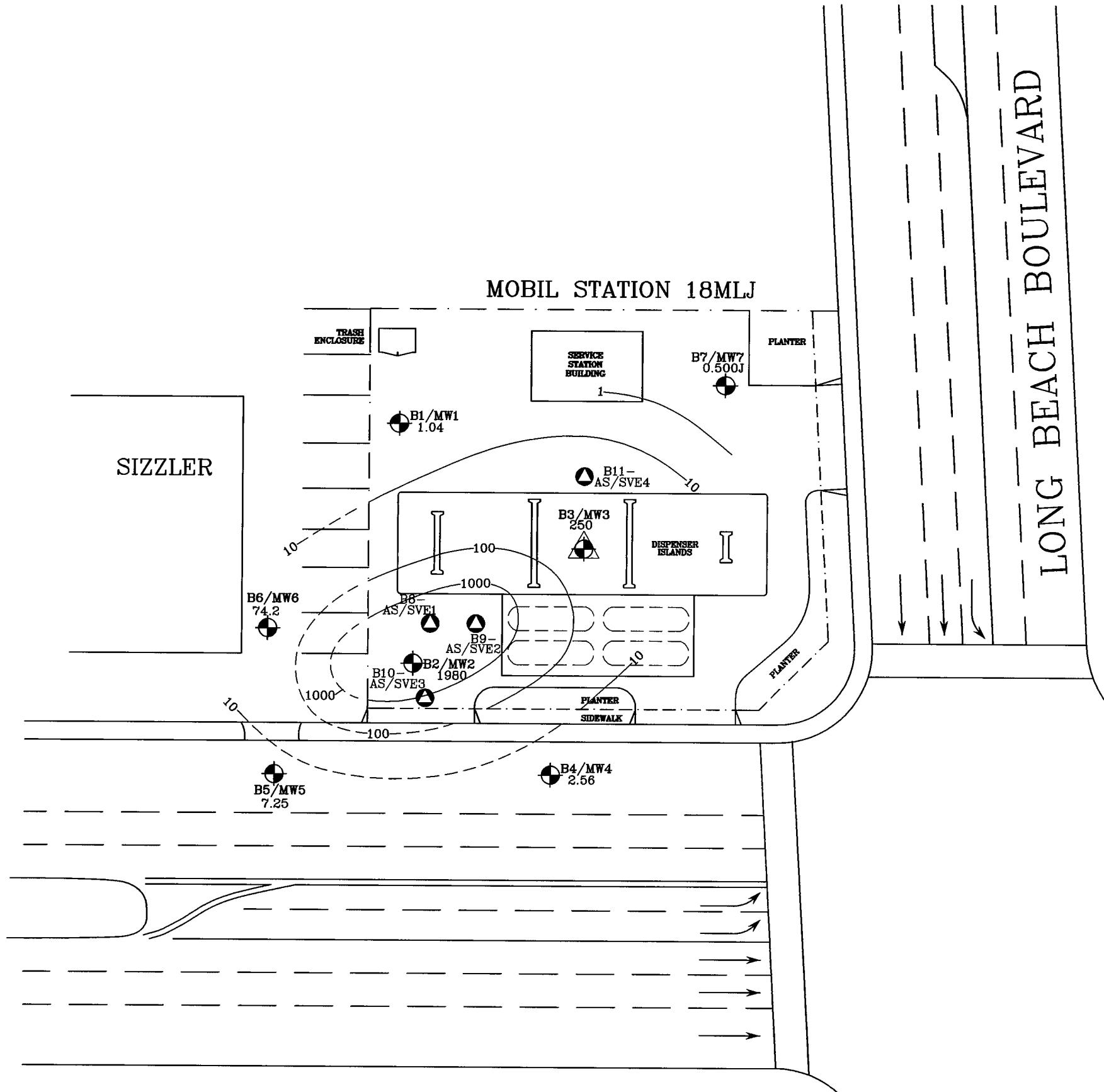
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PLATE

6

DATE: 03/21/06



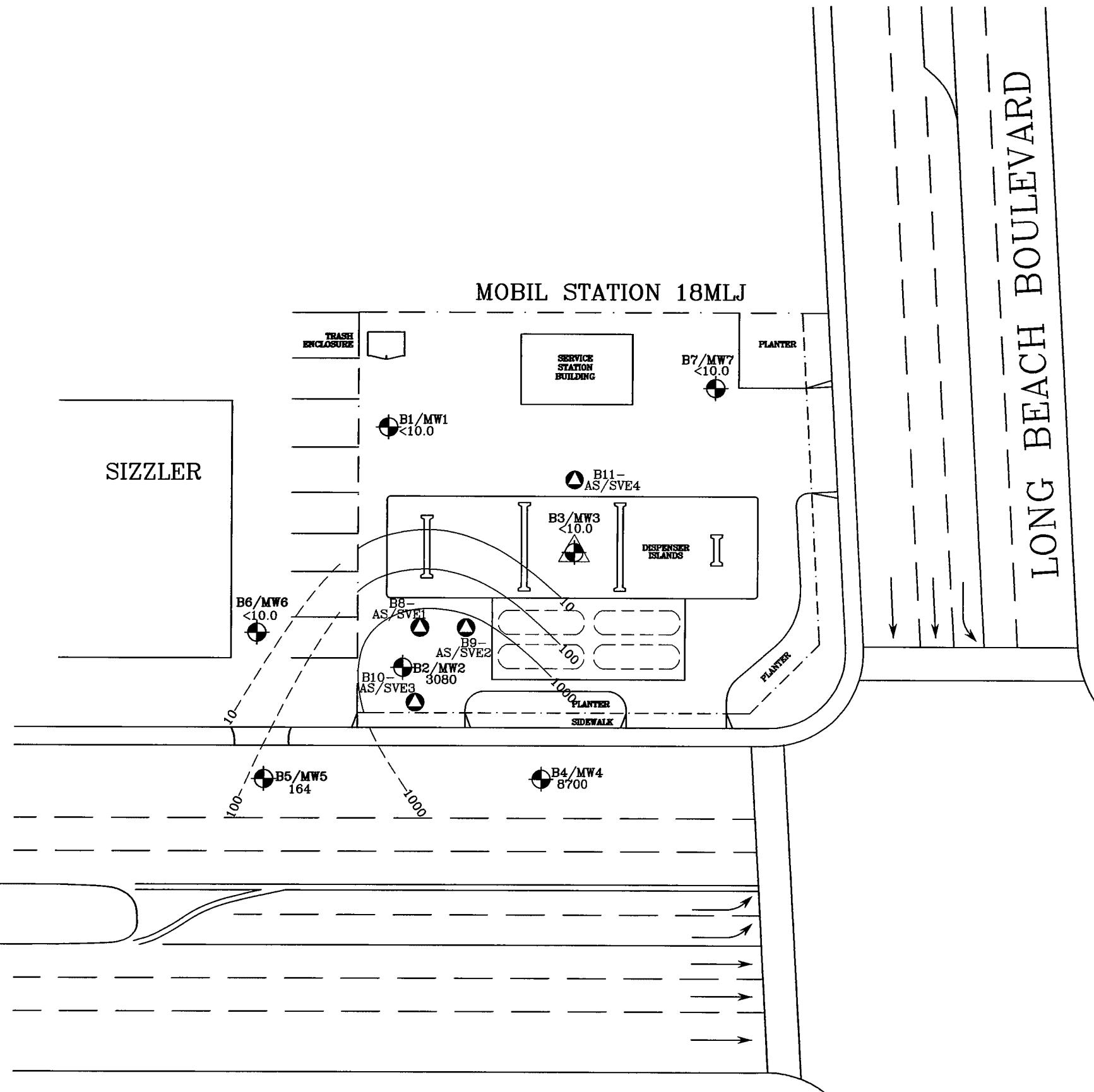
EXPLANATION

- B7/MW7 Groundwater monitoring well
- B3/MW3 Groundwater monitoring/vadose zone well
- B11-AS/SVE4 Air sparge/soil vapor extraction well
- Underground storage tank
- 1980 MTBE concentration in micrograms per liter
- J Estimated value between method detection limit and practical quantitation limit
- Line of equal MTBE concentration (dashed where inferred)

MTBE GROUNDWATER ISOPLITH CONCENTRATION MAP 01/26/06

MOBIL STATION 18MLJ
5005 North Long Beach Boulevard
Long Beach, California

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ENVIRONMENTAL RESOLUTIONS, INC.	PLATE
7	DATE: 03/21/06



EXPLANATION

- B7/MW7 Groundwater monitoring well
- ▲ B3/MW3 Groundwater monitoring/vadose zone well
- B11-AS/SVE4 Air sparge/soil vapor extraction well
- (---) Underground storage tank
- 8700 TBA concentration in micrograms per liter
- <10.0 Less than the stated laboratory reporting limit
- Line of equal TBA concentration (dashed where inferred)

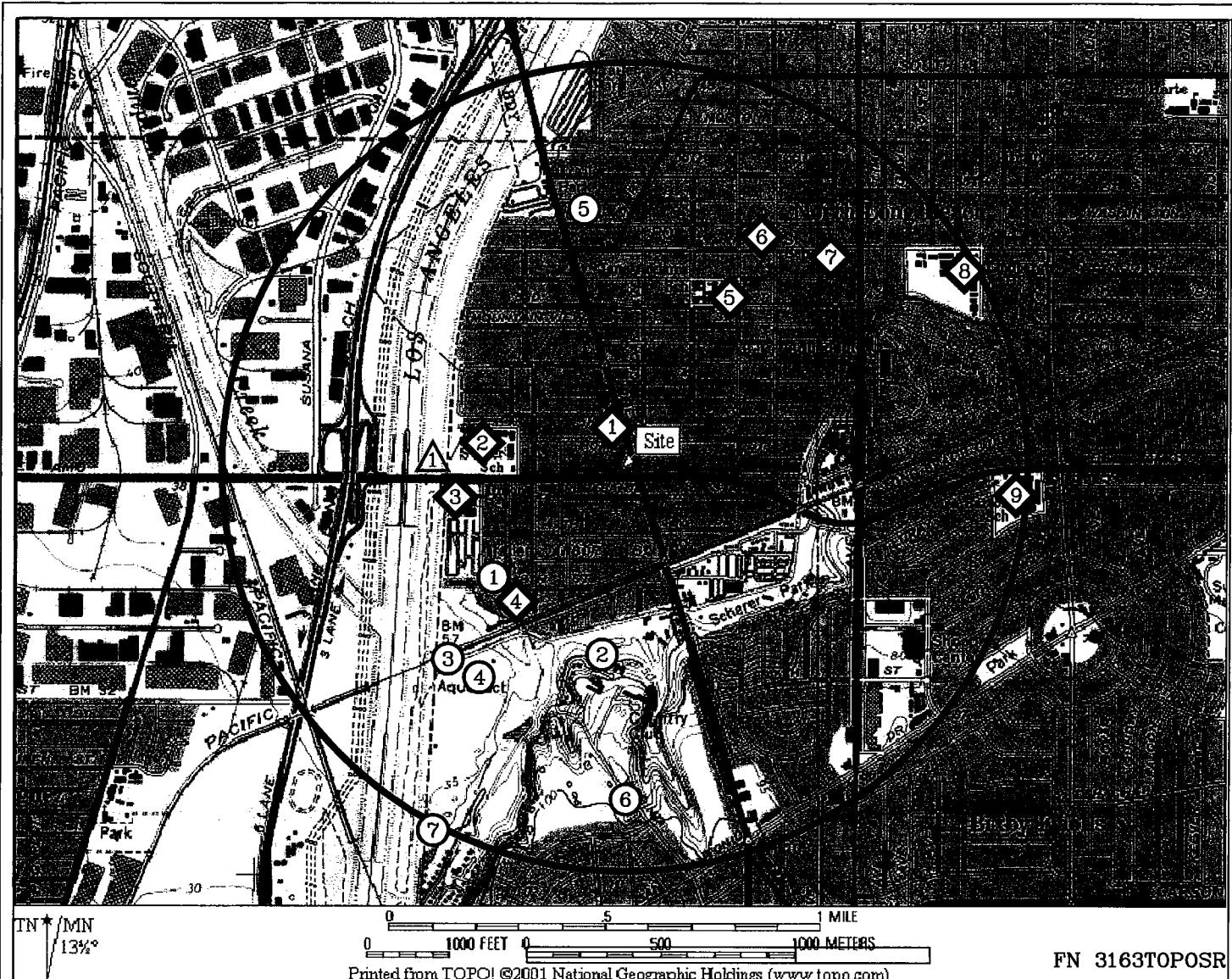
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APPROXIMATE SCALE
0 40 80 FEET

TBA GROUNDWATER ISOPLETH CONCENTRATION MAP 01/26/06

MOBIL STATION 18MLJ
5005 North Long Beach Boulevard
Long Beach, California

FN 31630004	PROJECT NO.
ERI	3163
ENVIRONMENTAL RESOLUTIONS, INC.	PLATE
8	DATE: 03/21/06



SENSITIVE RECEPTORS

WATER WELLS

- (1) 905L (2170 feet)*
- (2) 906B (2270 feet)*
- (3) 906A (2800 feet)*
- (4) 906E (2850 feet)*
- (5) 904 (3200 feet)*
- (6) 906D (3910 feet)*
- (7) 896E (4860 feet)*

SCHOOLS

- (1) Praise Temple Academy (630 feet)
- (2) Sutter Elementary School (1580 feet)
- (3) Long Beach Adventist School (2010 feet)
- (4) Southwestern Longview School (2270 feet)
- (5) Addams Elementary School (2320 feet)
- (6) Stepanek Private School (3183 feet)
- (7) St. Athanasius Elementary School (3448 feet)
- (8) Charles A. Lindberg School (4403 feet)

- (9) Barton Elementary Middle School (4784 feet)

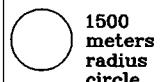
SURFACE WATER

- (1) Los Angeles River (2400 feet)

HOSPITALS

None

EXPLANATION



1500 meters radius circle

* = Location obtained from www.ladpw.org

School locations obtained from Microsoft Streets and Trips 2005 database.

NOTES

Only schools within 1/2-mile radius of site are shown

Map Name: Long Beach, CA
Version: 1981

PROJECT NO.

3163

PLATE

9

DATE: 03/21/06



SENSITIVE RECEPTOR MAP

MOBIL STATION 18MLJ
5005 North Long Beach Boulevard
Long Beach, California

TABLE 1
CUMULATIVE SOIL ANALYTICAL RESULTS
MOBIL STATION 18MLJ
5005 NORTH LONG BEACH BOULEVARD
LONG BEACH, CALIFORNIA
ERI 3163

Sample Number	Depth (feet)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHd	MTBE	TBA	DIPE	ETBE	TAME	Ethanol	Methanol
Samples collected by FREY Environmental, Inc. on January 18 and 29, 2001. Concentrations reported in mg/kg.														
D1-4	4	<0.092	<0.092	<0.092	<0.272	1.1	NA	5.000	2.600 J	<0.092	<0.092	<0.092	NA	NA
D2-4	4	<0.110	<0.110	<0.110	<0.330	1.9	NA	5.500	21.000	<0.110	<0.110	<0.110	NA	NA
D3-4	4	<0.100	<0.100	<0.100	<0.310	34	NA	30.000	140	<0.100	<0.100	0.055 J	NA	NA
D4-4	4	<0.096	<0.096	<0.096	<0.286	0.82	NA	4.800	8.900	<0.096	<0.096	<0.096	NA	NA
D5-4	4	<0.94	<0.94	<0.94	<0.284	53	NA	50.000	69.000	<0.94	<0.94	<0.94	NA	NA
D6-4	4	<0.390	0.270 J	<0.390	0.210 J	1.8	NA	18.000	<19.000	<0.390	<0.390	<0.390	NA	NA
P1-4	4	<0.930	<0.930	<0.930	<2.830	2.1	NA	13.000	<46.000	<0.930	<0.930	<0.930	NA	NA
SP1	<0.0050	<0.0050	<0.0050	<0.010	<0.50	NA	0.017	4.000	<0.010	<0.010	<0.010	<0.010	NA	NA
SP2	<0.0050	0.0062	0.010	0.177	3.8	NA	0.011	0.610	<0.010	<0.010	<0.010	<0.010	NA	NA
SP3	<0.0050	<0.0050	<0.0050	<0.0100	<0.50	NA	<0.0050	0.900	<0.010	<0.010	<0.010	<0.010	NA	NA
SP4	<0.0050	<0.0050	<0.0050	<0.0100	<0.50	NA	0.049	1.700	<0.010	<0.010	<0.010	<0.010	NA	NA
SP5	<0.0050	<0.0050	<0.0050	0.054	<0.50	NA	0.039	3.500	<0.010	<0.010	<0.010	<0.010	NA	NA
SP6 (a)	<0.0050	<0.0050	<0.0050	<0.0100	<0.50	NA	<0.0050	0.510	<0.010	<0.010	<0.010	<0.010	NA	NA
SP7 (a)	<0.0050	<0.0050	<0.0050	<0.0100	<0.50	NA	<0.0050	<0.250	<0.010	<0.010	<0.010	<0.010	NA	NA
Samples collected by Environmental Resolutions, Inc. on April 14 and 15, 2003. BTEX and fuel oxygenate concentrations reported in µg/kg; TPHg, ethanol and methanol reported in mg/kg.														
S-6-B1	6	0.78 J	0.71 J	<0.98	0.49 J	<0.27	NA	0.28 J	<20	<0.98	<0.98	<0.98	<0.10	<0.10
S-10-B1	10	11	11	1.7	2.57 J	<0.23	NA	<1.9	<19	<0.95	<0.95	<0.95	<0.10	<0.10
S-15-B1	15	0.46 J	<0.89	<0.89	<2.69	<0.25	NA	0.54 J	<18	<0.89	<0.89	<0.89	<0.10	<0.10
S-20-B1	20	<0.84	<0.84	<0.84	<2.54	<0.21	NA	<1.7	<17	<0.84	<0.84	<0.84	<0.10	<0.10
S-25-B1	25	<1.0	<1.0	<1.0	<3.1	<0.24	NA	<2.1	<21	<1.0	<1.0	<1.0	<0.10	<0.10
S-30-B1	30	<0.97	<0.97	<0.97	<2.87	0.12 J	NA	0.28 J	<19	<0.97	<0.97	<0.97	<0.10	<0.10
S-40-B1	40	0.72 J	0.53 J	<0.91	<2.71	0.26	NA	<1.8	<18	<0.91	<0.91	<0.91	<0.10	<0.10
S-50-B1	50	<1.1	<1.1	<1.1	<3.2	0.13 J	NA	<2.1	<21	<1.1	<1.1	<1.1	<0.10	<0.10

TABLE 1
CUMULATIVE SOIL ANALYTICAL RESULTS
MOBIL STATION 18MLJ
5005 NORTH LONG BEACH BOULEVARD
LONG BEACH, CALIFORNIA
ERI 3163

Sample Number	Depth (feet)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHd	MTBE	TBA	DIPE	ETBE	TAME	Ethanol	Methanol
Samples collected by Environmental Resolutions, Inc. on April 14 and 15, 2003 (continued). BTEX and fuel oxygenate concentrations reported in µg/kg; TPHg, ethanol and methanol reported in mg/kg.														
S-5-B2	5	<98	<98	<98	<298	<0.24	NA	1300	<2000	<98	<98	<98	<0.10	<0.10
S-10-B2	10	<88	<88	<88	<268	<0.23	NA	2600	<1800	<88	<88	<88	<0.10	<0.10
S-15-B2	15	<88	<88	<88	<268	0.070 J	NA	1000	<1800	<88	<88	<88	<0.10	<0.10
S-20-B2	20	3.1	<0.87	11	3.85	0.15 J	NA	36	13 J	<0.87	<0.87	<0.87	<0.10	<0.10
S-25-B2	25	1.0	<0.98	6.4	<2.98	0.17 J	NA	700	220	<0.98	<0.98	<0.98	<0.10	<0.10
S-30-B2	30	<98	<98	<98	<298	0.13 J	NA	1300	<2000	<98	<98	<98	<0.10	<0.10
S-35-B2	35	<1.0	0.42 J	<1.0	0.27 J	0.083 J	NA	1.8 J	<20	<1.0	<1.0	<1.0	<0.10	<0.10
S-40-B2	40	0.16 J	0.38 J	4.9	1.61 J	0.15 J	NA	1.3 J	<20	<0.99	<0.99	<0.99	<0.10	<0.10
S-45-B2	45	<95	2100	620	3600	83	NA	39 J	<1900	<95	<95	<95	<0.10	<0.10
S-50-B2	50	<370	45000	16000	92000	1300	NA	<740	<7400	<370	<370	<370	<0.10	<0.10
S-10-B3	10	<190	<190	<190	212 J	0.68	NA	21000	<3700	<190	<190	<190	<0.10	<0.10
S-15-B3	15	37 J	220	1000	8600	4.4	NA	6700	<1800	<90	<90	<90	<0.10	<0.10
S-20-B3	20	2.7	0.35 J	90	140.95	2.4	NA	720	23	<0.82	<0.82	<0.82	<0.10	<0.10
S-25-B3	25	0.60 J	0.45 J	6.3	20.1	0.12 J	NA	270	56	<0.92	<0.92	<0.92	<0.10	<0.10
S-30-B3	30	<0.97	<0.97	0.35 J	1.63 J	0.22	NA	5.9	<19	<0.97	<0.97	<0.97	<0.10	<0.10
S-35-B3	35	<110	<107	78 J	500	1.1	NA	1300	<2100	<110	<110	<110	NA	NA
S-45-B3	45	0.48 J	2.0	12	85	0.79	NA	150 J	45	<0.89	<0.89	<0.89	<0.10	<0.10
S-50-B3	50	0.35 J	1.5	10	71	0.46	NA	300	58	<0.87	<0.87	<0.87	<0.10	<0.10
Samples collected by Environmental Resolutions, Inc. on October 26 through 28, 2004. Concentrations reported in mg/kg.														
S-10-B4	10	0.0044	0.0039	<0.0013	<0.0013	<5.00	<10.1	<0.0013	<0.0321	<0.0013	<0.0013	<0.0013	<0.128	<10.0
S-15-B4	15	<0.0015	<0.0015	<0.0015	<0.0015	<5.00	<9.96	<0.0015	<0.0378	<0.0015	<0.0015	<0.0015	<0.151	<10.0
S-20-B4	20	<0.0011	<0.0011	<0.0011	<0.0011	<5.00	<10.1	<0.0011	<0.0274	<0.0011	<0.0011	<0.0011	<0.109	<10.0
S-25-B4	25	<0.0019	<0.0019	<0.0019	<0.0019	<5.00	<9.88	<0.0019	<0.0468	<0.0019	<0.0019	<0.0019	<0.187	29.8
S-30-B4	30	<0.0014	<0.0014	<0.0014	<0.0014	<5.00	<10.1	<0.0014	<0.0358	<0.0014	<0.0014	<0.0014	<0.143	25.1
S-35-B4	35	<0.0013	<0.0013	<0.0013	<0.0013	<5.00	<10.1	<0.0013	<0.0319	<0.0013	<0.0013	<0.0013	<0.128	<10.0
S-40-B4	40	<0.0012	<0.0012	<0.0012	<0.0012	<5.00	<10.0	<0.0012	<0.0303	<0.0012	<0.0012	<0.0012	<0.121	51.3
S-45-B4	45	<0.0014	<0.0014	<0.0014	<0.0014	<5.00	<9.88	<0.0014	<0.0356	<0.0014	<0.0014	<0.0014	<0.142	<10.0
S-50-B4	50	<0.0010	<0.0010	<0.0010	<0.0010	<5.00	<10.0	<0.0010	<0.0256	<0.0010	<0.0010	<0.0010	<0.102	<10.0
S-10-B5	10	0.0035	0.0027	0.0031	0.0148	<5.00	<10.1	<0.0013	<0.0333	<0.0013	<0.0013	<0.0013	<0.133	<10.0
S-15-B5	15	<0.0013	<0.0013	<0.0013	<0.0013	<5.00	<10.0	<0.0013	<0.0325	<0.0013	<0.0013	<0.0013	<0.130	<10.0
S-20-B5	20	0.0018	<0.0016	<0.0016	0.0026	<5.00	<9.88	<0.0016	<0.0399	<0.0016	<0.0016	<0.0016	<0.159	<10.0
S-25-B5	25	<0.0023	<0.0023	<0.0023	<0.0023	<5.00	<10.0	<0.0023	<0.0576	<0.0023	<0.0023	<0.0023	<0.230	199
S-30-B5	30	<0.0012	<0.0012	<0.0012	<0.0012	<5.00	<9.88	<0.0012	<0.0292	<0.0012	<0.0012	<0.0012	<0.117	17.3
S-35-B5	35	<0.0012	<0.0012	<0.0012	<0.0012	<5.00	<10.1	<0.0012	<0.0302	<0.0012	<0.0012	<0.0012	<0.121	<10.0
S-45-B5	45	<0.0016	0.0028	0.0073	0.0103	<5.00	<10.0	<0.0016	<0.0394	<0.0016	<0.0016	<0.0016	<0.158	57.0

TABLE 1
CUMULATIVE SOIL ANALYTICAL RESULTS
MOBIL STATION 18MLJ
5005 NORTH LONG BEACH BOULEVARD
LONG BEACH, CALIFORNIA
ERI 3163

Sample Number	Depth (feet)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHd	MTBE	TBA	DIPE	ETBE	TAME	Ethanol	Methanol
Samples collected by Environmental Resolutions, Inc. on October 26 through 28, 2004 (continued). Concentrations reported in mg/kg.														
S-50-B5	50	<0.0011	0.0131	0.0349	0.0558	<5.00	<9.92	<0.0011	<0.0278	<0.0011	<0.0011	<0.0011	<0.111	<10.0
S-10-B6	10	0.0058	0.0048	<0.0016	<0.0016	<5.00	<10.0	<0.0016	<0.0388	<0.0016	<0.0016	<0.0016	<0.155	<10.0
S-15-B6	15	<0.0015	<0.0015	<0.0015	<0.0015	<5.00	<9.80	<0.0015	<0.0382	<0.0015	<0.0015	<0.0015	<0.153	<10.0
S-20-B6	20	<0.0014	<0.0014	<0.0014	<0.0014	<5.00	<10.1	<0.0014	<0.0362	<0.0014	<0.0014	<0.0014	<0.145	<10.0
S-25-B6	25	<0.0014	<0.0014	<0.0014	<0.0014	<5.00	<10.1	<0.0014	<0.0344	<0.0014	<0.0014	<0.0014	<0.138	49.8
S-30-B6	30	<0.0013	<0.0013	<0.0013	<0.0013	<5.00	<10.1	<0.0013	<0.0334	<0.0013	<0.0013	<0.0013	<0.134	<10.0
S-35-B6	35	0.0023	0.0015	<0.0014	<0.0014	<5.00	<10.0	<0.0014	<0.0353	<0.0014	<0.0014	<0.0014	<0.141	<10.0
S-40-B6	40	<0.0012	<0.0012	<0.0012	<0.0012	<5.00	<10.1	<0.0012	<0.0312	<0.0012	<0.0012	<0.0012	<0.125	<10.0
S-45-B6	45	<0.0013	<0.0013	0.112	0.0608	<5.00	<10.1	<0.0013	<0.0318	<0.0013	<0.0013	<0.0013	<0.127	<10.0
S-50-B6	50	<0.0013	<0.0013	0.0930	0.0486	<5.00	<9.92	<0.0013	<0.0325	<0.0013	<0.0013	<0.0013	<0.130	<10.0
Samples collected by Environmental Resolutions, Inc. on March 16, 2005. Concentrations reported in mg/kg.														
S-10-B7	10	0.0063	0.0035	0.0026	0.0113	<4.87 J	67.7	<0.0017	<0.0427	<0.0017	<0.0017	<0.0017	<0.171	<5.00
S-15-B7	15	0.0009 J	<0.0016	<0.0016	<0.0016	<4.76	<1.00 J	<0.0016	<0.0394	<0.0016	<0.0016	<0.0016	<0.158	<5.00
S-20-B7	20	0.0025	0.0075	0.0097	0.0567	<4.74	<1.01 J	<0.0015	<0.0369	<0.0015	<0.0015	<0.0015	<0.147	<5.00
S-25-B7	25	<0.0017	<0.0017	<0.0017	<0.0017	<5.01	<1.00 J	<0.0017	<0.0427	<0.0017	<0.0017	<0.0017	<0.171	<5.00
S-30-B7	30	0.0025	<0.0016	0.0011 J	0.0049	<4.87	6.37	<0.0016	<0.0408	<0.0016	<0.0016	<0.0016	<0.163	<5.00
S-35-B7	35	0.0013 J	<0.0018	0.0025	0.0154	<4.86	<1.01 J	<0.0018	<0.0450	<0.0018	<0.0018	<0.0018	<0.180	<5.00
S-40-B7	40	<0.0019	<0.0019	<0.0019	<0.0019	<4.94	<1.01 J	<0.0019	<0.0465	<0.0019	<0.0019	<0.0019	<0.186	<5.00
S-45-B7	45	<0.0018	<0.0018	<0.0018	0.0012 J	<4.97	<1.01 J	<0.0018	<0.0456	<0.0018	<0.0018	<0.0018	<0.182	<5.00
S-50-B7	50	<0.0017	<0.0017	<0.0017	<0.0017	<4.80	<1.00 J	<0.0017	<0.0420	<0.0017	<0.0017	<0.0017	<0.168	<5.00
Samples collected by Environmental Resolutions, Inc. on May 31, June 1 and 2, 2005. Concentrations reported in µg/kg.														
S-5-B8	5	3.5	1.6 J	<2.7	<2.7	360 J	670 J	885	1070	<2.7	<2.7	<2.7	<270	NA
S-10-B8	10	7.3	5.8	1.2 J	1.6 J	11100	740 J	1.1 J	8540	<1.8	<1.8	<1.8	<177	NA
S-15-B8	15	1.3 J	1.3 J	0.9 J	1.2 J	700 J	920 J	2.0	7900	<1.7	<1.7	<1.7	<167	NA
S-20-B8	20	1.1 J	<1.5	53.4	1.5	1890	620 J	15.8	3140	<1.5	<1.5	<1.5	<152	NA
S-25-B8	25	16.0	3.5	15.3	26.2	400 J	780 J	224	545	<1.8	<1.8	<1.8	<180	NA
S-30-B8	30	1.4 J	1.6 J	271	45.9	1210	640 J	7.2	<43.7	<1.7	<1.7	<1.7	<175	NA
S-35-B8	35	<1.6	<1.6	1.0 J	<1.6	<1000	560 J	<1.6	<40.8	<1.6	<1.6	<1.6	<163	NA
S-40-B8	40	0.7 J	46.1	643	1270	12900	106000	<1.8	<46.0	<1.8	<1.8	<1.8	<184	NA
S-5-B9	5	8.6	451	260	1210	<1000	760 J	799	<46.5	<1.9	<1.9	<1.9	<186	NA
S-10-B9	10	3.0	4.4	2.0	7.5	6380	720 J	9400	1150	<1.7	<1.7	4.8	<171	NA
S-15-B9	15	91.8	2320	3520	22700	180000	2590	12800	<41.0	<1.6	<1.6	<1.6	<164	NA
S-20-B9	20	831	74400	47600	275000	539000	5790	31700	11400	<78.7	<78.7	<78.7	<7870	NA
S-25-B9	25	34.3	445	140	705	1800000	43400	6850	625	<1.4	<1.4	<1.4	<137	NA
S-30-B9	30	<1.6 J	17.4	1800	105	316000	13800	11.5	<41.7	<1.7	<1.7	<1.7	<167	NA
S-35-B9	35	7.3	1330	1020	5770	9570	2240	1050	363	<1.8	<1.8	<1.8	<180	NA
S-40-B9	40	<86.2	47.4 J	77.6 J	172	1060000	129000	64.7 J	<2160	<86.2	<86.2	<86.2	<8620	NA

TABLE 1
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MOBIL STATION 18MLJ
5005 NORTH LONG BEACH BOULEVARD
LONG BEACH, CALIFORNIA
ERI 3163

Sample Number	Depth (feet)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHd	MTBE	TBA	DIPE	ETBE	TAME	Ethanol	Methanol
Samples collected by Environmental Resolutions, Inc. on May 31, June 1 and 2, 2005 (continued). Concentrations reported in ug/kg.														
S-5-B10	5	5.9	5.9	0.9 J	<2.1	<100	1060	33.2	43.7 J	<2.1	<2.1	<2.1	<211	NA
S-10-B10	10	3.5	3.1	<2.0	<2.0	100	750 J	32.5	152	<2.0	<2.0	<2.0	<196	NA
S-15-B10	15	1.8 J	1.9	<1.9	<1.9	400	2770	552	716	<1.9	<1.9	<1.9	<187	NA
S-20-B10	20	1.8	2.4	2.6	11.1	<100	4640	253	58.4	<1.5	<1.5	<1.5	<154	NA
S-25-B10	25	6.1	13.8	95.1	165	<100	760 J	194	<69.4	<2.8	<2.8	<2.8	<278	NA
S-30-B10	30	0.8 J	1.7 J	1.2 J	3.6	<100	920 J	20.7	21.2 J	<1.8	<1.8	<1.8	<175	NA
S-35-B10	35	1.2 J	1.2 J	1.3 J	<1.7	<100	440 J	8.9	<43.0	<1.7	<1.7	<1.7	<172	NA
S-40-B10	40	1.3 J	1.5 J	3.4	6.8	110	1130	29.6	<46.5	<1.9	<1.9	<1.9	<186	NA
S-10-B11	10	7.3	5.8	<1.6	10.3	<1000	NA	666	51.6	<1.6	<1.6	<1.6	<164	NA
S-15-B11	15	<1.7	<1.7	<1.7	25.1	<1000	NA	168	<42.1	<1.7	<1.7	<1.7	<168	NA
S-20-B11	20	<1.5	<1.5	<1.5	2.9	<1000	NA	27.4	<38.3	<1.5	<1.5	<1.5	<153	NA
S-25-B11	25	<1.8	<1.8	<1.8	<1.8	<1000	NA	15.4	<43.9	<1.8	<1.8	<1.8	<175	NA
S-30-B11	30	<1.7	<1.7	<1.7	<1.7	<1000	NA	<1.7	<43.4	<1.7	<1.7	<1.7	<174	NA
S-35-B11	35	<2.0	<2.0	<2.0	<2.0	<1000	NA	<2.0	<49.2	<2.0	<2.0	<2.0	<197	NA
S-40-B11	40	<2.0	<2.0	<2.0	<2.0	<1000	NA	<2.0	<49.3	<2.0	<2.0	<2.0	<197	NA

EXPLANATION:

mg/kg = milligrams per kilogram;

µg/kg = micrograms per kilogram

BTEX = benzene, toluene, ethylbenzene and total xylenes

DIPE = di-isopropyl ether

ETBE = ethyl tertiary butyl ether

MTBE = methyl tertiary butyl ether analyzed by Environmental Protection Agency Method 8260B

TAME = tertiary amyl methyl ether

TBA = tertiary butyl alcohol

TPHd = total petroleum hydrocarbons as diesel

TPHg = total petroleum hydrocarbons as gasoline

(a) = samples analyzed for total lead; results were: SP6, 8.27 mg/kg; SP7, 13.2 mg/kg

D = dispenser island; P = product line; SP = stockpile

J = estimated value between method detection limit and practical quantitation limit

NA = not analyzed

<8620 = not detected at or above stated laboratory reporting limit

TABLE 2
 WATER LEVEL MEASUREMENTS AND GROUNDWATER ANALYSES
 MOBIL STATION 18MLJ
 5005 NORTH LONG BEACH BOULEVARD
 LONG BEACH, CALIFORNIA
 ERI 3163

MW1	ELEV:	41.10	Screen Interval (feet):			20-50	X	TPHg <50.0	MTBE 1.04	TBA <10.0
DATE	GW DEPTH	GW ELEV.	B	T	E	20-50				
01/26/06	27.74	13.36	<0.500	1.28	1.11	<0.500				
MW2	ELEV:	39.55	Screen Interval (feet):			20-50				
DATE	GW DEPTH	GW ELEV.								
01/26/06	26.47	13.08	76.3	68.9	974	58.7	5970	1980	3080	
MW3	ELEV:	40.84	Screen Interval (feet):			20-50				
DATE	GW DEPTH	GW ELEV.								
01/26/06	27.45	13.39	<0.500	0.470 J	<0.500	<0.500	95.7	250	<10.0	
MW4	ELEV:	39.10	Screen Interval (feet):			19-49				
DATE	GW DEPTH	GW ELEV.								
01/26/06	26.06	13.04	4.32	<0.500	<0.500	<0.500	<50.0	2.56	8700	
MW5	ELEV:	38.72	Screen Interval (feet):			19-49				
DATE	GW DEPTH	GW ELEV.								
01/26/06	25.91	12.81	<0.500	<0.500	<0.500	<0.500	<50.0	7.25	164	
MW6	ELEV:	39.21	Screen Interval (feet):			20-50				
DATE	GW DEPTH	GW ELEV.								
01/26/06	26.27	12.94	<0.500	<0.500	91.4	12.4	2070	74.2	<10.0	
MW7	ELEV:	41.14	Screen Interval (feet):			18-48				
DATE	GW DEPTH	GW ELEV.								
01/26/06	27.65	13.49	<0.500	<0.500	<0.500	<0.500	<50.0	0.500 J	<10.0	

EXPLANATION:

Results in micrograms per liter (ug/l).

GW = groundwater; ELEV = elevation

B = benzene; T = toluene; E = ethylbenzene; X = total xylene isomers

MTBE = methyl tertiary butyl ether analyzed by Environmental Protection Agency Method 8260B

TBA = tertiary butyl alcohol

TPHg = total petroleum hydrocarbons as gasoline

J = estimated value between method detection limit and practical quantitation limit

<10.0 = not detected at or above stated laboratory reporting limit

TABLE 3
CUMULATIVE WATER LEVEL MEASUREMENTS AND GROUNDWATER ANALYSES
MOBIL STATION 18MLJ
5005 NORTH LONG BEACH BOULEVARD
LONG BEACH, CALIFORNIA
ERI 3163

Date	Well	Elev	GW Depth	GW Elev	LPH	Benzene (ug/l)	Toluene (ug/l)	Ethyl- benzene (ug/l)	Xylenes (ug/l)	TPHg (ug/l)	TPHd (ug/l)	TRPH (ug/l)	MTBE (ug/l)	DIPE (ug/l)	ETBE (ug/l)	TAME (ug/l)	TBA (ug/l)	Ethanol (ug/l)	Methanol (ug/l)
Field Point MW1 Well Screen Interval (feet): 20-50																			
4/17/2003	41.10	29.66	11.44	no	<1.00	<1.00	<1.00	<1.00	230	133	<100	<2.00	<1.00	<1.00	<1.00	<10.0	<1000	<10000	
8/26/2003	41.10	29.52	11.58	no	<1.00	<1.00	<1.00	<1.00	97.4	<500		<2.00	<1.00	<1.00	<1.00	<10.0	<1000	<10000	
11/14/2003	41.10	29.88	11.22	no	<1.00	<1.00	<1.00	<1.00	<50.0	<500		<2.00	<1.00	<1.00	<1.00	<10.0			
2/21/2004	41.10	30.03	11.07	no	<1.00	<1.00	<1.00	<1.00	<50.0	<500		<2.00	<1.00	<1.00	<1.00	<10.0	<1000	<10000	
4/30/2004	41.10	29.85	11.25	no	<1.00	<1.00	<1.00	<1.00	<50.0	<500		<2.00	<1.00	<1.00	<1.00	69.0			
7/10/2004	41.10	30.50	10.60	no	<1.00	<1.00	<1.00	<1.00	231	<500		2.90	<1.00	<1.00	<1.00	<10.0			
11/5/2004	41.10	30.52	10.58	no	<1.00	<1.00	<1.00	<1.00	<50.0	<500		<2.00	<1.00	<1.00	<1.00	<10.0			
3/21/2005	41.10	29.21	11.89	no	0.70	<0.50	0.60	3.40	<50.0	<500		6.10	<1.00	<1.00	1.00	17.0	<200	<5000	
6/2/2005	41.10	28.32	12.78	no	<0.50	<0.50	<0.50	<0.50	82.9	<500		1.90	<1.00	<1.00	<1.00	9.20 J			
8/4/2005	41.10	27.92	13.18	no	<0.500	<0.500	<0.500	<0.500	308	<500		1.47	<1.00	<1.00	<1.00	<10.0			
10/26/2005	41.10	28.19	12.91	no	0.480 J	0.440 J	2.44	11.2	80.5	35.2 J		1.11	<1.00	<1.00	<1.00	<10.0			
1/26/2006	41.10	27.74	13.36	no	<0.500	1.28	1.11	<0.500	<50.0	<500		1.04	<1.00	<1.00	<1.00	<10.0	<200	<5000	
Field Point MW2 Well Screen Interval (feet): 20-50																			
4/17/2003	39.55	28.43	11.12	no	5.90	3660	1340	3940	19900	2980	<100	131	<1.00	<1.00	<1.00	<10.0	<1000	<10000	
8/26/2003	39.55	28.31	11.24	no	118	1220	1260	625	15600	1490		5200	<1.00	<1.00	5.70	85.1	<1000	<10000	
11/14/2003	39.55	28.66	10.89	no	68.0	1280	1280	770	9810	1110		4260	<1.00	<1.00	<1.00	142			
2/21/2004	39.55	28.82	10.73	no	47.1	560	1220	775	10600	1710		975	<1.00	<1.00	<1.00	56.5	<1000	<10000	
4/30/2004	39.55	28.62	10.93	no	61.0	424	1390	550	9090	872		1040	<1.00	<1.00	<1.00	<10.0			
7/10/2004	39.55	29.34	10.21	no	60.4	348	1260	402	8260	1220		920	<1.00	<1.00	<1.00	125			

TABLE 3
CUMULATIVE WATER LEVEL MEASUREMENTS AND GROUNDWATER ANALYSES
MOBIL STATION 18MLJ
5005 NORTH LONG BEACH BOULEVARD
LONG BEACH, CALIFORNIA
ERI 3163

Date	Well Elev	GW Depth	GW Elev	LPH	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Xylenes (ug/l)	TPHg (ug/l)	TPHd (ug/l)	TRPH (ug/l)	MTBE (ug/l)	DIPE (ug/l)	ETBE (ug/l)	TAME (ug/l)	TBA (ug/l)	Ethanol (ug/l)	Methanol (ug/l)
11/5/2004	39.55	29.31	10.24	no	66.7	238	930	190	6360	878		220	<1.00	<1.00	<1.00	<10.0		
3/21/2005	39.55	27.96	11.59	no	80.7	125	538	90.1	2670	<500		1370	<1.00	0.60 J	0.70 J	522	<200	<5000
6/2/2005	39.55	27.02	12.53	no	307	124	1630	277	16000	510		6780	<1.00	<1.00	<1.00	3550		
8/4/2005	39.55	26.62	12.93	no	6.26	181	855	307	5820	101 J		435	<1.00	<1.00	<1.00	129		
10/26/2005	39.55	26.74	12.81	no	71.5	67.9	1330	61.5	5980	317 J		2070	<1.00	<1.00	<1.00	865		
1/26/2006	39.55	26.47	13.08	no	76.3	68.9	974	58.7	5970	265 J		1980	<1.00	<1.00	<1.00	3080	<200	<5000
Field Point	MW3	Well Screen Interval (feet): 20-50																
4/17/2003	40.84	29.34	11.50	no	<1.00	<1.00	1.50	7.70	2530	916	<100	105	<1.00	<1.00	<1.00	45.4	<1000	<10000
8/26/2003	40.84	29.26	11.58	no	<1.00	<1.00	1.60	<1.00	162	<500		112	<1.00	<1.00	<1.00	<10.0	<1000	<10000
11/14/2003	40.84	29.57	11.27	no	<1.00	<1.00	2.40	<1.00	179	<500		87.2	<1.00	<1.00	<1.00	<10.0		
2/21/2004	40.84	29.73	11.11	no	1.20	<1.00	2.30	<1.00	170	<500		116	<1.00	<1.00	<1.00	<10.0	<1000	<10000
4/30/2004	40.84	29.57	11.27	no	<1.00	<1.00	2.00	6.40	138	<500		137	<1.00	<1.00	<1.00	<10.0		
7/10/2004	40.84	30.31	10.53	no	<1.00	<1.00	2.80	<1.00	139	<500		89.6	<1.00	<1.00	<1.00	<10.0		
11/5/2004	40.84	30.25	10.59	no	1.50	<1.00	4.30	<1.00	181	<500		182	<1.00	<1.00	<1.00	50.3		
3/21/2005	40.84	28.88	11.96	no	2.60	<0.50	1.20	1.00	222	<500		120	<1.00	<1.00	<1.00	97.4	<200	<5000
6/2/2005	40.84	28.01	12.83	no	0.80	<0.50	0.50	<0.50	260	<500		167	<1.00	<1.00	<1.00	105		
8/4/2005	40.84	27.61	13.23	no	0.730	<0.500	1.06	<0.500	159	<500		140	<1.00	<1.00	<1.00	<10.0		
10/26/2005	40.84	27.96	12.88	no	1.16	<0.500	2.91	5.52	192	<500		294	<1.00	<1.00	<1.00	50.4		
1/26/2006	40.84	27.45	13.39	no	<0.500	0.470 J	<0.500	<0.500	95.7	<500		250	<1.00	<1.00	<1.00	<10.0	<200	<5000
Field Point	MW4	Well Screen Interval (feet): 19-49																

TABLE 3
CUMULATIVE WATER LEVEL MEASUREMENTS AND GROUNDWATER ANALYSES
MOBIL STATION 18MLJ
5005 NORTH LONG BEACH BOULEVARD
LONG BEACH, CALIFORNIA
ERI 3163

Date	Well	Elev	GW Depth	GW Elev	LPH	Benzene (ug/l)	Toluene (ug/l)	Ethyl- benzene (ug/l)	Xylenes (ug/l)	TPHg (ug/l)	TPHd (ug/l)	TRPH (ug/l)	MTBE (ug/l)	DIPE (ug/l)	ETBE (ug/l)	TAME (ug/l)	TBA (ug/l)	Ethanol (ug/l)	Methanol (ug/l)
11/5/2004	39.10	30.85	8.25	no	23.7	<1.00	<1.00	<1.00	247	<500		27.1	<1.00	<1.00	<1.00	5760			
3/21/2005	39.10	27.51	11.59	no	35.6	<0.50	0.90	13.8	2060	831		76.6	<1.00	1.20	1.10	49700	<200	1800 J	
6/2/2005	39.10	26.62	12.48	no	8.70	<0.50	0.50	<0.50	538	<500		60.9	<1.00	<1.00	<1.00	19300			
8/4/2005	39.10	26.21	12.89	no	0.510	<0.500	<0.500	<0.500	1950	<500		<1.00	<1.00	<1.00	<1.00	51.4			
10/26/2005	39.10			no	INACCESSIBLE - CITY HAS TRAFFIC CONTROL SET UP IN STREET														
1/26/2006	39.10	26.06	13.04	no	4.32	<0.500	<0.500	<0.500	<50.0	107 J		2.56	<1.00	<1.00	<1.00	8700	<200	<5000	
Field Point	MW5	Well Screen Interval (feet): 19-49																	
11/5/2004	38.72	28.74	9.98	no	<1.00	119	280	900	6520	1330		<2.00	<1.00	<1.00	<1.00	<10.0			
3/21/2005	38.72	27.39	11.33	no	23.1	<0.50	8.10	1.40	1420	560		9.70	<1.00	<1.00	<1.00	5250	<200	<5000	
6/2/2005	38.72	26.48	12.24	no	0.90	2.40	1.80	2.90	315	<500		2.00	<1.00	<1.00	<1.00	697			
8/4/2005	38.72	26.08	12.64	no	5.14	54.9	140	229	2000	<500		4.40	<1.00	<1.00	<1.00	216			
10/26/2005	38.72			no	INACCESSIBLE - CITY HAS TRAFFIC CONTROL SET UP IN STREET														
1/26/2006	38.72	25.91	12.81	no	<0.500	<0.500	<0.500	<0.500	<50.0	<500		7.25	<1.00	<1.00	<1.00	164	<200	<5000	
Field Point	MW6	Well Screen Interval (feet): 20-50																	
11/5/2004	39.21	29.11	10.10	no	3.50	5.00	1120	404	8090	1580		<2.00	<1.00	<1.00	<1.00	<10.0			
3/21/2005	39.21	27.76	11.45	no	<0.50	<0.50	585	122	3960	749		<1.00	<1.00	<1.00	<1.00	<50.0	<200	1200 J	
6/2/2005	39.21	26.85	12.36	no	<0.50	0.40 J	826	116	5330	<500		<1.00	<1.00	<1.00	<1.00	<10.0			
8/4/2005	39.21	26.44	12.77	no	<0.500	1.94	685	94.3	4910	197 J		1.91	<1.00	<1.00	<1.00	<10.0			
10/26/2005	39.21	26.54	12.67	no	<0.500	0.470 J	189	32.1	2330	221 J		34.6	<1.00	<1.00	<1.00	5.27 J			
1/26/2006	39.21	26.27	12.94	no	<0.500	<0.500	91.4	12.4	2070	155 J		74.2	<1.00	<1.00	<1.00	<10.0	<200	<5000	
Field Point	MW7	Well Screen Interval (feet): 18-48																	

TABLE 3
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MOBIL STATION 18MLJ
5005 NORTH LONG BEACH BOULEVARD
LONG BEACH, CALIFORNIA
ERI 3163

Date	Well	Elev	GW Depth	GW Elev	LPH	Benzene (ug/l)	Toluene (ug/l)	Ethyl- benzene (ug/l)	Xylenes (ug/l)	TPHg (ug/l)	TPHd (ug/l)	TRPH (ug/l)	MTBE (ug/l)	DIPE (ug/l)	ETBE (ug/l)	TAME (ug/l)	TBA (ug/l)	Ethanol (ug/l)	Methanol (ug/l)
3/21/2005	41.14	29.09	12.05	no	<0.50	<0.50	<0.50	<0.50	<50.0	<500		0.50 J	<1.00	<1.00	<1.00	4.70 J	<200	<5000	
6/2/2005	41.14	28.13	13.01	no	<0.50	0.30 J	<0.50	<0.50	<50.0	<500		<1.00	<1.00	<1.00	<1.00	<10.0			
8/4/2005	41.14	27.79	13.35	no	<0.500	<0.500	<0.500	<0.500	79.0	<500		<1.00	<1.00	<1.00	<1.00	47.2			
10/26/2005	41.14	27.89	13.25	no	<0.500	0.650	11.4	52.7	<50.0	<500		<1.00	<1.00	<1.00	<1.00	<10.0			
1/26/2006	41.14	27.65	13.49	no	<0.500	<0.500	<0.500	<0.500	<50.0	<500		0.500 J	<1.00	<1.00	<1.00	<10.0	<200	<5000	
Field Point	Trip Blank	Well Screen Interval (feet):																	
4/17/2003		no	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<50.0			<2.00	<1.00	<1.00	<1.00	<10.0	<1000	<10000	
8/26/2003		no	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<50.0			<2.00	<1.00	<1.00	<1.00	<10.0			
11/14/2003		no	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<50.0			<2.00	<1.00	<1.00	<1.00	<10.0			
2/21/2004		no	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<50.0			<2.00	<1.00	<1.00	<1.00	<10.0			
4/30/2004		no	<1.00	1.00	<1.00	<1.00	<1.00	<1.00	<50.0			<2.00	<1.00	<1.00	<1.00	<10.0			
7/10/2004		no	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	50.0			<2.00	<1.00	<1.00	<1.00	<10.0			
11/5/2004		no	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<50.0			<2.00	<1.00	<1.00	<1.00	<10.0			
3/21/2005		no	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<50.0			<1.00	<1.00	<1.00	<1.00	<10.0			
6/2/2005		no	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<50.0			<1.00	<1.00	<1.00	<1.00	<10.0			
8/4/2005		no	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<50.0			<1.00	<1.00	<1.00	<1.00	<10.0			
10/26/2005		no	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<50.0			<1.00	<1.00	<1.00	<1.00	<10.0			
1/26/2006		no	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<50.0			<1.00	<1.00	<1.00	<1.00	<10.0			

TABLE 3
CUMULATIVE WATER LEVEL MEASUREMENTS AND GROUNDWATER ANALYSES
MOBIL STATION 18MLJ
5005 NORTH LONG BEACH BOULEVARD
LONG BEACH, CALIFORNIA
ERI 3163

Explanation:

ELEV = elevation

EPA = Environmental Protection Agency

GW = groundwater

DIPE = di-isopropyl ether

ETBE = ethyl tertiary butyl ether

TAME = tertiary amyl methyl ether

TBA = tertiary butyl alcohol

TPHd = total petroleum hydrocarbons as diesel

TPHg = total petroleum hydrocarbons as gasoline

TRPH = total recoverable petroleum hydrocarbons

MTBE = methyl tertiary butyl ether

MTBE analyzed by EPA Method 8260B.

LPH = liquid phase hydrocarbons (thickness measured in feet)

J = estimated value between method detection limit and practical quantification limit

<10000 = not detected at or above stated laboratory reporting limit

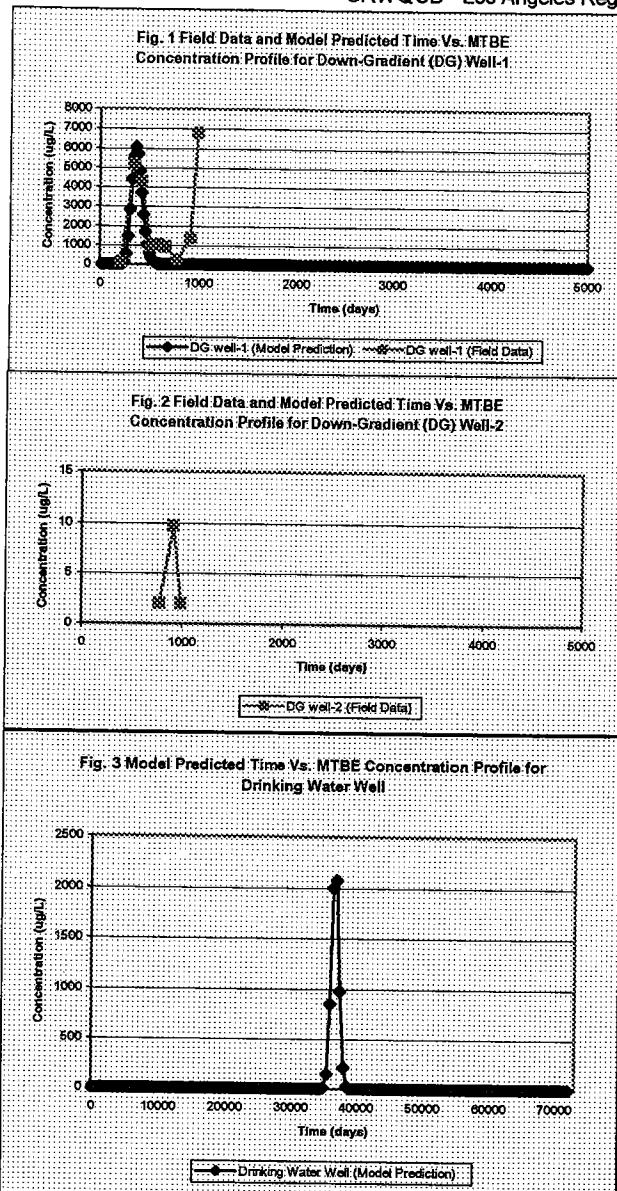
ug/l = micrograms per liter

California Regional Water Quality Control Board
 Non-Steady State Transport Model
 Mobil Station 18MLJ
 5005 North Long Beach Boulevard, Long Beach, California
 CRWQCB - Los Angeles Region Case No. 908050452A

Input Data and Conditions at Station 18MLJ, mobil 18, Long Beach, California		Range	Soil Type	Unknown Values	
Y-axis dispersivity	0.28 ft	0.1-10	Capped	0.07 m < D/H	
X-axis dispersivity	6.88E-05 ft	(0.33-0.65)D	Coarse Sand	0.1 m < L < 4D	
Distance parallel to direction of GW flow	20 ft		Fine Sand	0.1 m < L < 4D	
Distance perpendicular to direction of GW flow	5 ft		Silt/Sand	0.1 m < D/H < 1	
Groundwater velocity	0.038 ft/day	0.01-1.0	Sandy Silt	0.1 m < D/H < 1	
Source concentration	4.24E+06 ug/l	4.24E+03	Silt	0.1 m < D/H < 1	
Rate of discharge	23 ft/yr	mg/L			
Discharge duration or σ_t	8.33E-02 yr		Soil Type	Date 2nd/1st Release Disc'd	
Mass discharged per unit depth ($C_0 Q \sigma_t$)	2.50E+08 ug/l		poorly sorted sand	Apr-93	
Distance (X_0) to DKG well 2	100 ft			Date of 1st Mgmt Event	
Distance (Y_0) perpendicular to direction of flow	2 ft			4/17/2003	
Distance (X_0) to drinking water well	2170 ft				
Distance (Y_0) perpendicular to direction of flow	0 ft				
Maximum concentration in drinking water well	2074.02 ug/l			GW at ~ 28 fbg	
Time when plume reached its peak in DW well	37000 days				
Time when plume first reached 5 ug/l in DW well	35000 days				
Time remaining for plume to reach 5 ug/l in DW well	91.3 years				
Well Name	Well No.	Distance(x)	Distance(y)	C (ug/l)	Time (days)
Downgradient Well 1 at T ₁	18MLJ	28	8	3.43	218
T ₁				3.29E	333
T ₂				3.26E	333
T ₃				3.22	333
T ₄				3.14E	333
T ₅				3.13E	333
T ₆				3.12E	333
T ₇				3.11E	333
T ₈				3.10E	333
T ₉				3.09E	333
T ₁₀				3.08E	333
T ₁₁				3.07E	333
T ₁₂				3.06E	333
T ₁₃				3.05E	333
T ₁₄				3.04E	333
T ₁₅				3.03E	333
T ₁₆				3.02E	333
T ₁₇				3.01E	333
T ₁₈				3.00E	333
T ₁₉				2.99E	333
T ₂₀				2.98E	333
T ₂₁				2.97E	333
T ₂₂				2.96E	333
T ₂₃				2.95E	333
T ₂₄				2.94E	333
T ₂₅				2.93E	333
T ₂₆				2.92E	333
T ₂₇				2.91E	333
T ₂₈				2.90E	333
T ₂₉				2.89E	333
T ₃₀				2.88E	333
T ₃₁				2.87E	333
T ₃₂				2.86E	333
T ₃₃				2.85E	333
T ₃₄				2.84E	333
T ₃₅				2.83E	333
T ₃₆				2.82E	333
T ₃₇				2.81E	333
T ₃₈				2.80E	333
T ₃₉				2.79E	333
T ₄₀				2.78E	333
T ₄₁				2.77E	333
T ₄₂				2.76E	333
T ₄₃				2.75E	333
T ₄₄				2.74E	333
T ₄₅				2.73E	333
T ₄₆				2.72E	333
T ₄₇				2.71E	333
T ₄₈				2.70E	333
T ₄₉				2.69E	333
T ₅₀				2.68E	333
T ₅₁				2.67E	333
T ₅₂				2.66E	333
T ₅₃				2.65E	333
T ₅₄				2.64E	333
T ₅₅				2.63E	333
T ₅₆				2.62E	333
T ₅₇				2.61E	333
T ₅₈				2.60E	333
T ₅₉				2.59E	333
T ₆₀				2.58E	333
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T ₁₆₉				1.49E	333
T ₁₇₀				1.48E	333
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T ₁₇₂				1.46E	333
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T ₁₇₆				1.42E	333
T ₁₇₇				1.41E	333
T ₁₇₈				1.40E	333
T ₁₇₉				1.39E	333
T ₁₈₀				1.38E	333
T ₁₈₁				1.37E	333
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California Regional Water Quality Control Board
Non-Steady State Transport Model
Mobil Station 18MLJ

C₂ (ug/L)



Max Conc

Fig. 1 Field Data and Model Predicted Time Vs. MTBE Concentration Profile for Down-Gradient (DG) Well-1

Fig. 2 Field Data and Model Predicted Time Vs. MTBE Concentration Profile for Down-Gradient (DG) Well 2

Fig. 3 Model Predicted Time Vs. MTBE Concentration Profile for Drinking Water Well

4/17/2003

8/26/2003	131.00		
11/14/2003	80.00		
2/21/2004	99.00		
4/30/2004	69.00		
7/10/2004	71.00		
11/5/2004	118.00	11/5/2004	568.00
3/21/2005	136.00	3/21/2005	136.00
6/2/2005	73.00	6/2/2005	73.00

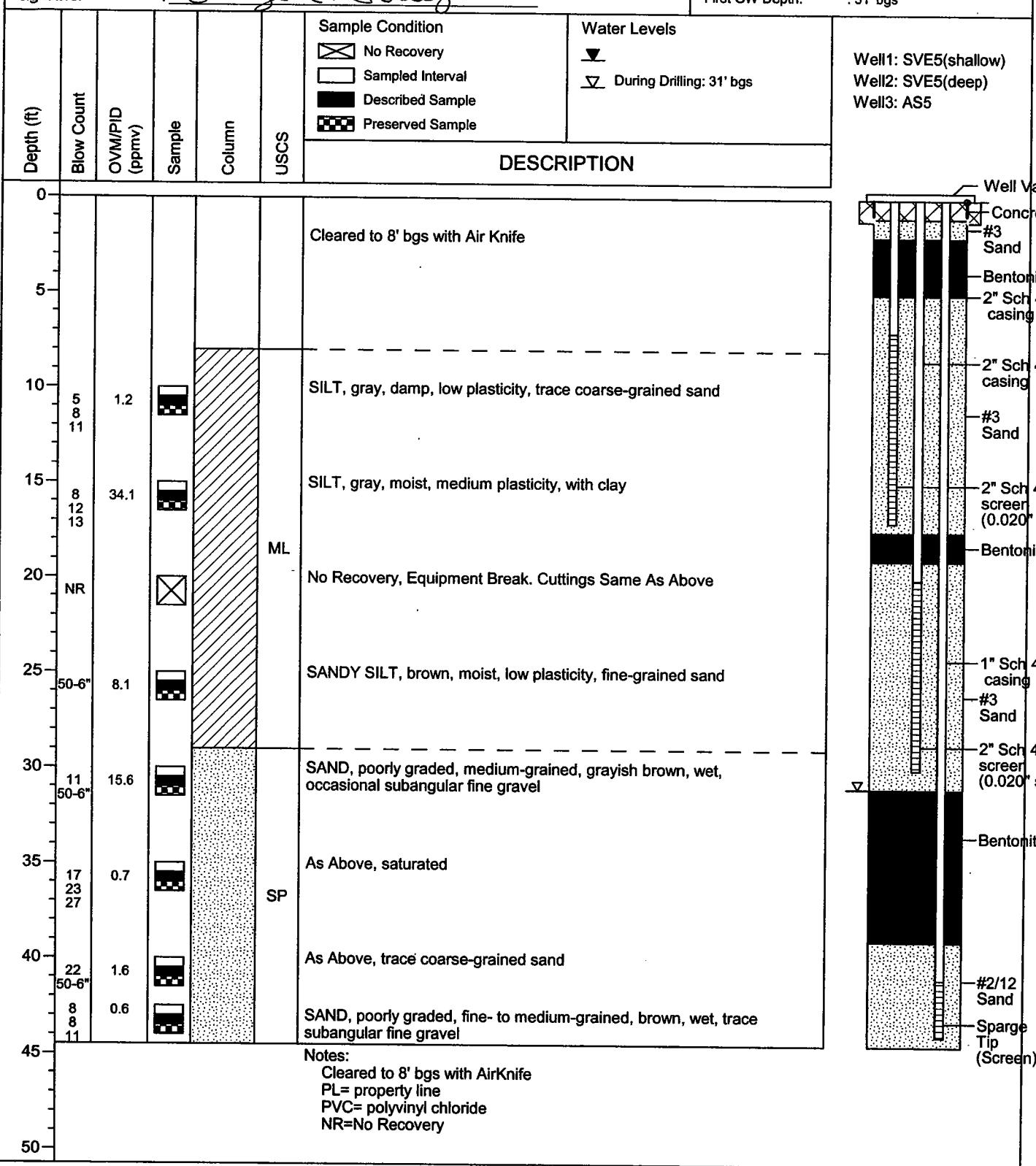


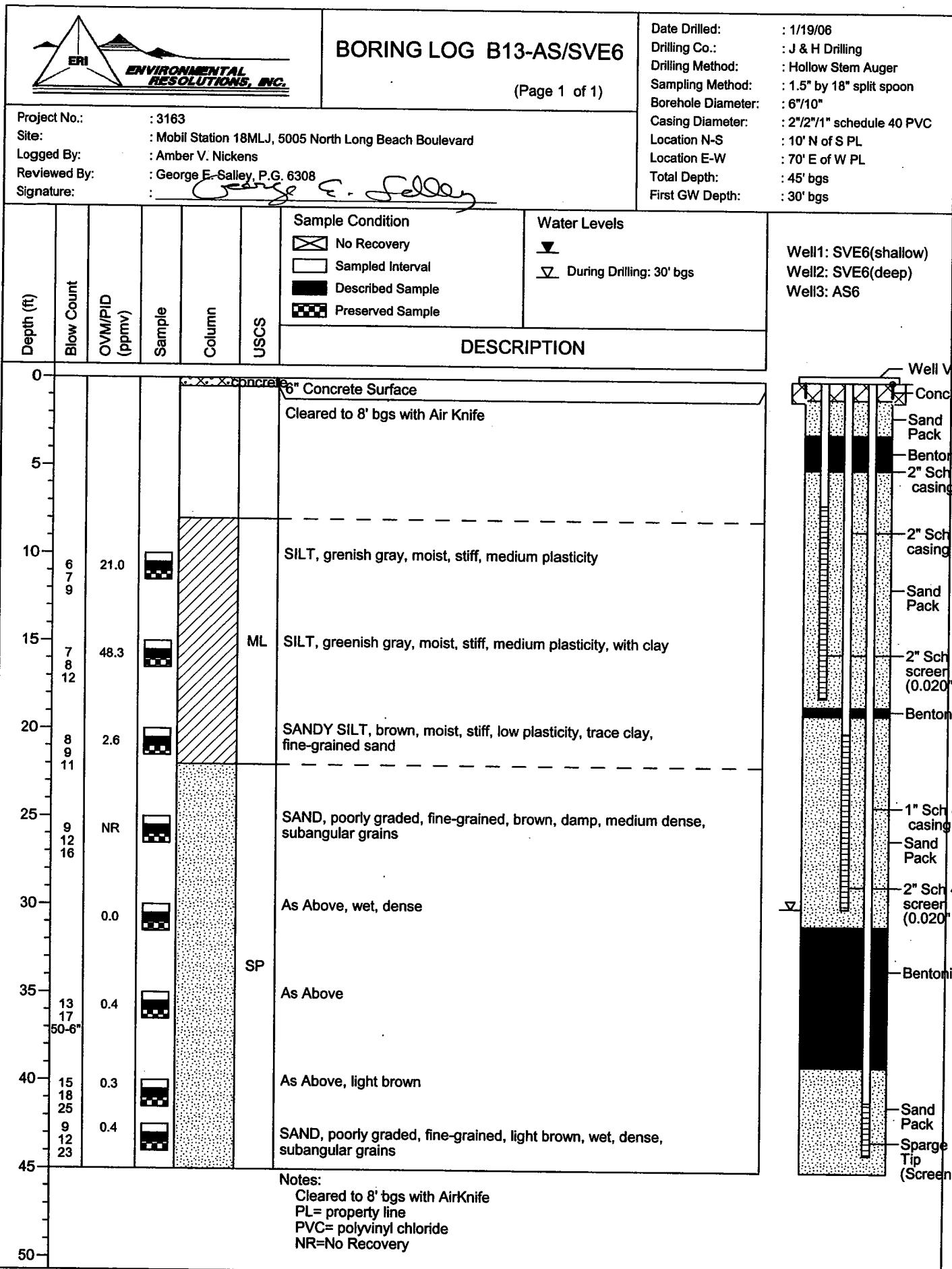
BORING LOG B12-AS/SVE5

(Page 1 of 1)

Project No.: : 3163
 Site: : Mobil Station 18MLJ, 5005 North Long Beach Boulevard
 Logged By: : Amber V. Nickens
 Reviewed By: : George E. Salley, P.G. 6308
 Signature: : *George E. Salley*

Date Drilled: : 1/20/06
 Drilling Co.: : J & H Drilling
 Drilling Method: : Hollow Stem Auger
 Sampling Method: : 1.5" by 18" split spoon
 Borehole Diameter: : 10"
 Casing Diameter: : 2" / 1" schedule 40 PVC
 Location N-S: : 9' N of S PL
 Location E-W: : 50' E of W PL
 Total Depth: : 44.5' bgs
 First GW Depth: : 31' bgs





March 08, 2006

Client: ERI Lake Forest (10203)
4320372 North Sea Circle
Lake Forest, CA 92630
Attn: George Salley

Work Order: NPA3061
Project Name: Exxon(06) 18-MLJ PO:4506814307
Project Nbr: ERI 3163 13
P/O Nbr: 4506814307
Date Received: 01/28/06

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
W-27-MW7	NPA3061-01	01/26/06 08:25
W-27-MW1	NPA3061-02	01/26/06 08:30
W-27-MW3	NPA3061-03	01/26/06 08:35
W-26-MW5	NPA3061-04	01/26/06 10:05
W-26-MW4	NPA3061-05	01/26/06 15:05
W-26-MW6	NPA3061-06	01/26/06 09:30
W-26-MW2	NPA3061-07	01/26/06 09:35
TRIP BLANKS	NPA3061-08	01/26/06 00:01

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately at 615-726-0177.

Additional Laboratory Comments:

Report revised on 3-8-06 to correct the methanol reporting limit.

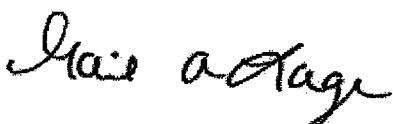
Revised Report 02-14-06jh Corrected sample descriptions for the first 4 samples. Replaced the "E" with "W".

Revised Report 02-24-06jh Reprinted the report in MDL format with Jflags.
California Certification Number: 01168CA

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By:



Gail A Lage

Senior Project Manager

Client	ERI Lake Forest (10203) 4320372 North Sea Circle Lake Forest, CA 92630	Work Order:	NPA3061
		Project Name:	Exxon(06) 18-MLJ PO:4506814307
Attn	George Salley	Project Number:	ERI 3163 13
		Received:	01/28/06 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NPA3061-01 (W-27-MW7 - Ground Water) Sampled: 01/26/06 08:25									
Alcohols by EPA Method 8015 modified									
Methanol	<5000		ug/L	1000	5000	1	01/31/06 15:24	SW846 8015B	6015115
<i>Surr: Isopropyl Acetate (50-150%)</i>	80 %					1	01/31/06 15:24	<i>SW846 8015B</i>	<i>6015115</i>
Volatile Organic Compounds by EPA Method 8260B									
Tert-Amyl Methyl Ether	<1.00		ug/L	0.200	1.00	1	02/03/06 23:13	SW846 8260B	6020443
Benzene	<0.500		ug/L	0.200	0.500	1	02/03/06 23:13	SW846 8260B	6020443
Ethanol	<200		ug/L	30.7	200	1	02/03/06 23:13	SW846 8260B	6020443
Ethyl tert-Butyl Ether	<1.00		ug/L	0.200	1.00	1	02/03/06 23:13	SW846 8260B	6020443
Diisopropyl Ether	<1.00		ug/L	0.200	1.00	1	02/03/06 23:13	SW846 8260B	6020443
Ethylbenzene	<0.500		ug/L	0.200	0.500	1	02/03/06 23:13	SW846 8260B	6020443
Methyl tert-Butyl Ether	0.500	J	ug/L	0.200	1.00	1	02/03/06 23:13	SW846 8260B	6020443
Toluene	<0.500		ug/L	0.200	0.500	1	02/03/06 23:13	SW846 8260B	6020443
Tertiary Butyl Alcohol	<10.0		ug/L	5.06	10.0	1	02/03/06 23:13	SW846 8260B	6020443
Xylenes, total	<0.500		ug/L	0.350	0.500	1	02/03/06 23:13	SW846 8260B	6020443
<i>Surr: 1,2-Dichloroethane-d4 (70-130%)</i>	97 %					1	02/03/06 23:13	<i>SW846 8260B</i>	<i>6020443</i>
<i>Surr: Dibromofluoromethane (79-122%)</i>	102 %					1	02/03/06 23:13	<i>SW846 8260B</i>	<i>6020443</i>
<i>Surr: Toluene-d8 (78-121%)</i>	95 %					1	02/03/06 23:13	<i>SW846 8260B</i>	<i>6020443</i>
<i>Surr: 4-Bromofluorobenzene (78-126%)</i>	97 %					1	02/03/06 23:13	<i>SW846 8260B</i>	<i>6020443</i>
Extractable Petroleum Hydrocarbons									
Diesel range organics	<500		ug/L	33.0	500	1	01/31/06 20:34	CA LUFT	6014958
<i>Sur: o-Terphenyl (55-150%)</i>	90 %					1	01/31/06 20:34	<i>CA LUFT</i>	<i>6014958</i>
Purgeable Petroleum Hydrocarbons									
GRO (C4-C12)	<50.0		ug/L	40.0	50.0	1	02/01/06 15:53	CA LUFT	6015163
<i>Sur: a,a,a-Trifluorotoluene (63-134%)</i>	82 %					1	02/01/06 15:53	<i>CA LUFT</i>	<i>6015163</i>
Sample ID: NPA3061-02 (W-27-MW1 - Ground Water) Sampled: 01/26/06 08:30									
Alcohols by EPA Method 8015 modified									
Methanol	<5000		ug/L	1000	5000	1	01/31/06 15:31	SW846 8015B	6015115
<i>Surr: Isopropyl Acetate (50-150%)</i>	80 %					1	01/31/06 15:31	<i>SW846 8015B</i>	<i>6015115</i>
Volatile Organic Compounds by EPA Method 8260B									
Tert-Amyl Methyl Ether	<1.00		ug/L	0.200	1.00	1	02/03/06 23:43	SW846 8260B	6020443
Benzene	<0.500		ug/L	0.200	0.500	1	02/03/06 23:43	SW846 8260B	6020443
Ethanol	<200		ug/L	30.7	200	1	02/03/06 23:43	SW846 8260B	6020443
Ethyl tert-Butyl Ether	<1.00		ug/L	0.200	1.00	1	02/03/06 23:43	SW846 8260B	6020443
Diisopropyl Ether	<1.00		ug/L	0.200	1.00	1	02/03/06 23:43	SW846 8260B	6020443
Ethylbenzene	1.11		ug/L	0.200	0.500	1	02/03/06 23:43	SW846 8260B	6020443
Methyl tert-Butyl Ether	1.04		ug/L	0.200	1.00	1	02/03/06 23:43	SW846 8260B	6020443
Toluene	1.28		ug/L	0.200	0.500	1	02/03/06 23:43	SW846 8260B	6020443
Tertiary Butyl Alcohol	<10.0		ug/L	5.06	10.0	1	02/03/06 23:43	SW846 8260B	6020443
Xylenes, total	<0.500		ug/L	0.350	0.500	1	02/03/06 23:43	SW846 8260B	6020443
<i>Surr: 1,2-Dichloroethane-d4 (70-130%)</i>	96 %					1	02/03/06 23:43	<i>SW846 8260B</i>	<i>6020443</i>
<i>Surr: Dibromofluoromethane (79-122%)</i>	100 %					1	02/03/06 23:43	<i>SW846 8260B</i>	<i>6020443</i>

Client	ERI Lake Forest (10203) 4320372 North Sea Circle Lake Forest, CA 92630	Work Order:	NPA3061
		Project Name:	Exxon(06) 18-MLJ PO:4506814307
Attn	George Salley	Project Number:	ERI 3163 13
		Received:	01/28/06 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NPA3061-02 (W-27-MW1 - Ground Water) - cont. Sampled: 01/26/06 08:30									
Volatile Organic Compounds by EPA Method 8260B - cont.									
Surr: Toluene-d8 (78-121%)	95 %					1	02/03/06 23:43	SW846 8260B	6020443
Surr: 4-Bromofluorobenzene (78-126%)	98 %					1	02/03/06 23:43	SW846 8260B	6020443
Extractable Petroleum Hydrocarbons									
Diesel range organics	<500		ug/L	33.0	500	1	01/31/06 20:51	CA LUFT	6014958
Surr: o-Terphenyl (55-150%)	92 %					1	01/31/06 20:51	CA LUFT	6014958
Purgeable Petroleum Hydrocarbons									
GRO (C4-C12)	<50.0		ug/L	40.0	50.0	1	02/01/06 16:28	CA LUFT	6015163
Surr: a,a,a-Trifluorotoluene (63-134%)	84 %					1	02/01/06 16:28	CA LUFT	6015163
Sample ID: NPA3061-03 (W-27-MW3 - Ground Water) Sampled: 01/26/06 08:35									
Alcohols by EPA Method 8015 modified									
Methanol	<5000		ug/L	1000	5000	1	01/31/06 15:37	SW846 8015B	6015115
Surr: Isopropyl Acetate (50-150%)	79 %					1	01/31/06 15:37	SW846 8015B	6015115
Volatile Organic Compounds by EPA Method 8260B									
Tert-Amyl Methyl Ether	<1.00		ug/L	0.200	1.00	1	02/04/06 00:13	SW846 8260B	6020443
Benzene	<0.500		ug/L	0.200	0.500	1	02/04/06 00:13	SW846 8260B	6020443
Ethanol	<200		ug/L	30.7	200	1	02/04/06 00:13	SW846 8260B	6020443
Ethyl tert-Butyl Ether	<1.00		ug/L	0.200	1.00	1	02/04/06 00:13	SW846 8260B	6020443
Diisopropyl Ether	<1.00		ug/L	0.200	1.00	1	02/04/06 00:13	SW846 8260B	6020443
Ethylbenzene	<0.500		ug/L	0.200	0.500	1	02/04/06 00:13	SW846 8260B	6020443
Methyl tert-Butyl Ether	250		ug/L	1.00	5.00	5	02/04/06 21:11	SW846 8260B	6020443
Toluene	0.470	J	ug/L	0.200	0.500	1	02/04/06 00:13	SW846 8260B	6020443
Tertiary Butyl Alcohol	<10.0		ug/L	5.06	10.0	1	02/04/06 00:13	SW846 8260B	6020443
Xylenes, total	<0.500		ug/L	0.350	0.500	1	02/04/06 00:13	SW846 8260B	6020443
Surr: 1,2-Dichloroethane-d4 (70-130%)	94 %					1	02/04/06 00:13	SW846 8260B	6020443
Surr: Dibromofluoromethane (79-122%)	100 %					1	02/04/06 00:13	SW846 8260B	6020443
Surr: Toluene-d8 (78-121%)	96 %					1	02/04/06 00:13	SW846 8260B	6020443
Surr: 4-Bromofluorobenzene (78-126%)	98 %					1	02/04/06 00:13	SW846 8260B	6020443
Extractable Petroleum Hydrocarbons									
Diesel range organics	<500		ug/L	33.0	500	1	01/31/06 21:08	CA LUFT	6014958
Surr: o-Terphenyl (55-150%)	82 %					1	01/31/06 21:08	CA LUFT	6014958
Purgeable Petroleum Hydrocarbons									
GRO (C4-C12)	95.7		ug/L	40.0	50.0	1	02/01/06 17:04	CA LUFT	6015163
Surr: a,a,a-Trifluorotoluene (63-134%)	87 %					1	02/01/06 17:04	CA LUFT	6015163

Client	ERI Lake Forest (10203) 4320372 North Sea Circle Lake Forest, CA 92630	Work Order:	NPA3061
		Project Name:	Exxon(06) 18-MLJ PO:4506814307
Attn	George Salley	Project Number:	ERI 3163 13
		Received:	01/28/06 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NPA3061-04 (W-26-MW5 - Ground Water) Sampled: 01/26/06 10:05									
Alcohols by EPA Method 8015 modified									
Methanol	<5000		ug/L	1000	5000	1	01/31/06 15:44	SW846 8015B	6015115
<i>Surr: Isopropyl Acetate (50-150%)</i>	79 %					1	01/31/06 15:44	SW846 8015B	6015115
Volatile Organic Compounds by EPA Method 8260B									
Tert-Amyl Methyl Ether	<1.00		ug/L	0.200	1.00	1	02/04/06 00:43	SW846 8260B	6020443
Benzene	<0.500		ug/L	0.200	0.500	1	02/04/06 00:43	SW846 8260B	6020443
Ethanol	<200		ug/L	30.7	200	1	02/04/06 00:43	SW846 8260B	6020443
Ethyl tert-Butyl Ether	<1.00		ug/L	0.200	1.00	1	02/04/06 00:43	SW846 8260B	6020443
Diisopropyl Ether	<1.00		ug/L	0.200	1.00	1	02/04/06 00:43	SW846 8260B	6020443
Ethylbenzene	<0.500		ug/L	0.200	0.500	1	02/04/06 00:43	SW846 8260B	6020443
Methyl tert-Butyl Ether	7.25		ug/L	0.200	1.00	1	02/04/06 00:43	SW846 8260B	6020443
Toluene	<0.500		ug/L	0.200	0.500	1	02/04/06 00:43	SW846 8260B	6020443
Tertiary Butyl Alcohol	164		ug/L	5.06	10.0	1	02/04/06 00:43	SW846 8260B	6020443
Xylenes, total	<0.500		ug/L	0.350	0.500	1	02/04/06 00:43	SW846 8260B	6020443
<i>Surr: 1,2-Dichloroethane-d4 (70-130%)</i>	96 %					1	02/04/06 00:43	SW846 8260B	6020443
<i>Surr: Dibromofluoromethane (79-122%)</i>	101 %					1	02/04/06 00:43	SW846 8260B	6020443
<i>Surr: Toluene-d8 (78-121%)</i>	96 %					1	02/04/06 00:43	SW846 8260B	6020443
<i>Surr: 4-Bromofluorobenzene (78-126%)</i>	97 %					1	02/04/06 00:43	SW846 8260B	6020443
Extractable Petroleum Hydrocarbons									
Diesel range organics	<500		ug/L	33.0	500	1	01/31/06 21:25	CA LUFT	6014958
<i>Surr: o-Terphenyl (55-150%)</i>	88 %					1	01/31/06 21:25	CA LUFT	6014958
Purgeable Petroleum Hydrocarbons									
GRO (C4-C12)	<50.0		ug/L	40.0	50.0	1	02/01/06 17:39	CA LUFT	6015163
<i>Surr: a,a,a-Trifluorotoluene (63-134%)</i>	85 %					1	02/01/06 17:39	CA LUFT	6015163
Sample ID: NPA3061-05 (W-26-MW4 - Ground Water) Sampled: 01/26/06 15:05									
Alcohols by EPA Method 8015 modified									
Methanol	<5000		ug/L	1000	5000	1	01/31/06 15:51	SW846 8015B	6015115
<i>Surr: Isopropyl Acetate (50-150%)</i>	79 %					1	01/31/06 15:51	SW846 8015B	6015115
Volatile Organic Compounds by EPA Method 8260B									
Tert-Amyl Methyl Ether	<1.00		ug/L	0.200	1.00	1	02/04/06 01:13	SW846 8260B	6020443
Benzene	4.32		ug/L	0.200	0.500	1	02/04/06 01:13	SW846 8260B	6020443
Ethanol	<200		ug/L	30.7	200	1	02/04/06 01:13	SW846 8260B	6020443
Ethyl tert-Butyl Ether	<1.00		ug/L	0.200	1.00	1	02/04/06 01:13	SW846 8260B	6020443
Diisopropyl Ether	<1.00		ug/L	0.200	1.00	1	02/04/06 01:13	SW846 8260B	6020443
Ethylbenzene	<0.500		ug/L	0.200	0.500	1	02/04/06 01:13	SW846 8260B	6020443
Methyl tert-Butyl Ether	2.56		ug/L	0.200	1.00	1	02/04/06 01:13	SW846 8260B	6020443
Toluene	<0.500		ug/L	0.200	0.500	1	02/04/06 01:13	SW846 8260B	6020443
Tertiary Butyl Alcohol	8700		ug/L	50.6	100	10	02/04/06 21:41	SW846 8260B	6020443
Xylenes, total	<0.500		ug/L	0.350	0.500	1	02/04/06 01:13	SW846 8260B	6020443
<i>Surr: 1,2-Dichloroethane-d4 (70-130%)</i>	96 %					1	02/04/06 01:13	SW846 8260B	6020443
<i>Surr: 1,2-Dichloroethane-d4 (70-130%)</i>	94 %					1	02/04/06 21:41	SW846 8260B	6020443

TestAmerica

ANALYTICAL TESTING CORPORATION

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	ERI Lake Forest (10203) 4320372 North Sea Circle Lake Forest, CA 92630	Work Order:	NPA3061
		Project Name:	Exxon(06) 18-MLJ PO:4506814307
Attn	George Salley	Project Number:	ERI 3163 13
		Received:	01/28/06 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NPA3061-05 (W-26-MW4 - Ground Water) - cont. Sampled: 01/26/06 15:05									
Volatile Organic Compounds by EPA Method 8260B - cont.									
<i>Surr: Dibromofluoromethane (79-122%)</i>	100 %					1	02/04/06 01:13	SW846 8260B	6020443
<i>Surr: Dibromofluoromethane (79-122%)</i>	101 %					1	02/04/06 21:41	SW846 8260B	6020443
<i>Surr: Toluene-d8 (78-121%)</i>	95 %					1	02/04/06 01:13	SW846 8260B	6020443
<i>Surr: Toluene-d8 (78-121%)</i>	96 %					1	02/04/06 21:41	SW846 8260B	6020443
<i>Surr: 4-Bromofluorobenzene (78-126%)</i>	98 %					1	02/04/06 01:13	SW846 8260B	6020443
<i>Surr: 4-Bromofluorobenzene (78-126%)</i>	101 %					1	02/04/06 21:41	SW846 8260B	6020443
Extractable Petroleum Hydrocarbons									
Diesel range organics	107	J	ug/L	33.0	500	1	01/31/06 21:43	CA LUFT	6014958
<i>Surr: o-Terphenyl (55-150%)</i>	100 %					1	01/31/06 21:43	CA LUFT	6014958
Purgeable Petroleum Hydrocarbons									
GRO (C4-C12)	<50.0		ug/L	40.0	50.0	1	02/01/06 18:14	CA LUFT	6015163
<i>Surr: a,a,a-Trifluorotoluene (63-134%)</i>	82 %					1	02/01/06 18:14	CA LUFT	6015163
Sample ID: NPA3061-06 (W-26-MW6 - Ground Water) Sampled: 01/26/06 09:30									
Alcohols by EPA Method 8015 modified									
Methanol	<5000		ug/L	1000	5000	1	01/31/06 16:04	SW846 8015B	6015115
<i>Surr: Isopropyl Acetate (50-150%)</i>	83 %					1	01/31/06 16:04	SW846 8015B	6015115
Volatile Organic Compounds by EPA Method 8260B									
Tert-Amyl Methyl Ether	<1.00		ug/L	0.200	1.00	1	02/04/06 01:43	SW846 8260B	6020443
Benzene	<0.500		ug/L	0.200	0.500	1	02/04/06 01:43	SW846 8260B	6020443
Ethanol	<200		ug/L	30.7	200	1	02/04/06 01:43	SW846 8260B	6020443
Ethyl tert-Butyl Ether	<1.00		ug/L	0.200	1.00	1	02/04/06 01:43	SW846 8260B	6020443
Diisopropyl Ether	<1.00		ug/L	0.200	1.00	1	02/04/06 01:43	SW846 8260B	6020443
Ethylbenzene	91.4		ug/L	0.200	0.500	1	02/04/06 01:43	SW846 8260B	6020443
Methyl tert-Butyl Ether	74.2		ug/L	0.200	1.00	1	02/04/06 01:43	SW846 8260B	6020443
Toluene	<0.500		ug/L	0.200	0.500	1	02/04/06 01:43	SW846 8260B	6020443
Tertiary Butyl Alcohol	<10.0		ug/L	5.06	10.0	1	02/04/06 01:43	SW846 8260B	6020443
Xylenes, total	12.4		ug/L	0.350	0.500	1	02/04/06 01:43	SW846 8260B	6020443
<i>Surr: 1,2-Dichloroethane-d4 (70-130%)</i>	95 %					1	02/04/06 01:43	SW846 8260B	6020443
<i>Surr: Dibromofluoromethane (79-122%)</i>	101 %					1	02/04/06 01:43	SW846 8260B	6020443
<i>Surr: Toluene-d8 (78-121%)</i>	96 %					1	02/04/06 01:43	SW846 8260B	6020443
<i>Surr: 4-Bromofluorobenzene (78-126%)</i>	96 %					1	02/04/06 01:43	SW846 8260B	6020443
Extractable Petroleum Hydrocarbons									
Diesel range organics	155	J	ug/L	33.0	500	1	01/31/06 22:00	CA LUFT	6014958
<i>Surr: o-Terphenyl (55-150%)</i>	92 %					1	01/31/06 22:00	CA LUFT	6014958
Purgeable Petroleum Hydrocarbons									
GRO (C4-C12)	2070		ug/L	40.0	50.0	1	02/01/06 18:50	CA LUFT	6015163
<i>Surr: a,a,a-Trifluorotoluene (63-134%)</i>	115 %					1	02/01/06 18:50	CA LUFT	6015163

Client	ERI Lake Forest (10203) 4320372 North Sea Circle Lake Forest, CA 92630	Work Order:	NPA3061
		Project Name:	Exxon(06) 18-MLJ PO:4506814307
Attn	George Salley	Project Number:	ERI 3163 13
		Received:	01/28/06 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NPA3061-07 (W-26-MW2 - Ground Water) Sampled: 01/26/06 09:35									
Alcohols by EPA Method 8015 modified									
Methanol	<5000		ug/L	1000	5000	1	01/31/06 16:11	SW846 8015B	6015115
<i>Surr: Isopropyl Acetate (50-150%)</i>	79 %					1	01/31/06 16:11	SW846 8015B	6015115
Volatile Organic Compounds by EPA Method 8260B									
Tert-Amyl Methyl Ether	<1.00		ug/L	0.200	1.00	1	02/04/06 02:13	SW846 8260B	6020443
Benzene	76.3		ug/L	0.200	0.500	1	02/04/06 02:13	SW846 8260B	6020443
Ethanol	<200		ug/L	30.7	200	1	02/04/06 02:13	SW846 8260B	6020443
Ethyl tert-Butyl Ether	<1.00		ug/L	0.200	1.00	1	02/04/06 02:13	SW846 8260B	6020443
Diisopropyl Ether	<1.00		ug/L	0.200	1.00	1	02/04/06 02:13	SW846 8260B	6020443
Ethylbenzene	974		ug/L	2.00	5.00	10	02/04/06 22:11	SW846 8260B	6020443
Methyl tert-Butyl Ether	1980		ug/L	10.0	50.0	50	02/06/06 15:03	SW846 8260B	6021060
Toluene	68.9		ug/L	0.200	0.500	1	02/04/06 02:13	SW846 8260B	6020443
Tertiary Butyl Alcohol	3080		ug/L	50.6	100	10	02/04/06 22:11	SW846 8260B	6020443
Xylenes, total	58.7		ug/L	0.350	0.500	1	02/04/06 02:13	SW846 8260B	6020443
<i>Surr: 1,2-Dichloroethane-d4 (70-130%)</i>	94 %					1	02/04/06 02:13	SW846 8260B	6020443
<i>Surr: 1,2-Dichloroethane-d4 (70-130%)</i>	96 %					1	02/04/06 22:11	SW846 8260B	6020443
<i>Surr: 1,2-Dichloroethane-d4 (70-130%)</i>	96 %					1	02/06/06 15:03	SW846 8260B	6021060
<i>Surr: Dibromoformmethane (79-122%)</i>	100 %					1	02/04/06 02:13	SW846 8260B	6020443
<i>Surr: Dibromoformmethane (79-122%)</i>	100 %					1	02/04/06 22:11	SW846 8260B	6020443
<i>Surr: Dibromoformmethane (79-122%)</i>	103 %					1	02/06/06 15:03	SW846 8260B	6021060
<i>Surr: Toluene-d8 (78-121%)</i>	96 %					1	02/04/06 02:13	SW846 8260B	6020443
<i>Surr: Toluene-d8 (78-121%)</i>	96 %					1	02/04/06 22:11	SW846 8260B	6020443
<i>Surr: Toluene-d8 (78-121%)</i>	94 %					1	02/06/06 15:03	SW846 8260B	6021060
<i>Surr: 4-Bromofluorobenzene (78-126%)</i>	96 %					1	02/04/06 02:13	SW846 8260B	6020443
<i>Surr: 4-Bromofluorobenzene (78-126%)</i>	94 %					1	02/04/06 22:11	SW846 8260B	6020443
<i>Surr: 4-Bromofluorobenzene (78-126%)</i>	94 %					1	02/06/06 15:03	SW846 8260B	6021060
Extractable Petroleum Hydrocarbons									
Diesel range organics	265	J	ug/L	33.0	500	1	01/31/06 22:17	CA LUFT	6014958
<i>Surr: o-Terphenyl (55-150%)</i>	91 %					1	01/31/06 22:17	CA LUFT	6014958
Purgeable Petroleum Hydrocarbons									
GRO (C4-C12)	5970		ug/L	200	250	5	02/02/06 13:40	CA LUFT	6015213
<i>Surr: a,a,a-Trifluorotoluene (63-134%)</i>	88 %					1	02/02/06 13:40	CA LUFT	6015213
Sample ID: NPA3061-08 (TRIP BLANKS - Ground Water) Sampled: 01/26/06 00:01									
Volatile Organic Compounds by EPA Method 8260B									
Tert-Amyl Methyl Ether	<1.00		ug/L	0.200	1.00	1	02/03/06 19:43	SW846 8260B	6020443
Benzene	<0.500		ug/L	0.200	0.500	1	02/03/06 19:43	SW846 8260B	6020443
Ethyl tert-Butyl Ether	<1.00		ug/L	0.200	1.00	1	02/03/06 19:43	SW846 8260B	6020443
Diisopropyl Ether	<1.00		ug/L	0.200	1.00	1	02/03/06 19:43	SW846 8260B	6020443
Ethylbenzene	<0.500		ug/L	0.200	0.500	1	02/03/06 19:43	SW846 8260B	6020443
Methyl tert-Butyl Ether	<1.00		ug/L	0.200	1.00	1	02/03/06 19:43	SW846 8260B	6020443
Toluene	<0.500		ug/L	0.200	0.500	1	02/03/06 19:43	SW846 8260B	6020443

Client	ERI Lake Forest (10203) 4320372 North Sea Circle Lake Forest, CA 92630	Work Order:	NPA3061
		Project Name:	Exxon(06) 18-MLJ PO:4506814307
Attn	George Salley	Project Number:	ERI 3163 13
		Received:	01/28/06 08:00

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Batch
Sample ID: NPA3061-08 (TRIP BLANKS - Ground Water) - cont. Sampled: 01/26/06 00:01									
Volatile Organic Compounds by EPA Method 8260B - cont.									
Tertiary Butyl Alcohol	<10.0		ug/L	5.06	10.0	1	02/03/06 19:43	SW846 8260B	6020443
Xylenes, total	<0.500		ug/L	0.350	0.500	1	02/03/06 19:43	SW846 8260B	6020443
<i>Surr: 1,2-Dichloroethane-d4 (70-130%)</i>	98 %					1	02/03/06 19:43	SW846 8260B	6020443
<i>Surr: Dibromofluoromethane (79-122%)</i>	102 %					1	02/03/06 19:43	SW846 8260B	6020443
<i>Surr: Toluene-d8 (78-121%)</i>	97 %					1	02/03/06 19:43	SW846 8260B	6020443
<i>Surr: 4-Bromofluorobenzene (78-126%)</i>	97 %					1	02/03/06 19:43	SW846 8260B	6020443
Purgeable Petroleum Hydrocarbons									
GRO (C4-C12)	<50.0		ug/L	40.0	50.0	1	02/01/06 15:18	CA LUFT	6015163
<i>Surr: a,a,a-Trifluorotoluene (63-134%)</i>	80 %					1	02/01/06 15:18	CA LUFT	6015163

Client	ERI Lake Forest (10203)	Work Order:	NPA3061
	4320372 North Sea Circle	Project Name:	Exxon(06) 18-MLJ PO:4506814307
	Lake Forest, CA 92630	Project Number:	ERI 3163 13
Attn	George Salley	Received:	01/28/06 08:00

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
Extractable Petroleum Hydrocarbons							
CA LUFT	6014958	NPA3061-01	1000.00	1.00	01/30/06 10:12	CEC	EPA 3510C
CA LUFT	6014958	NPA3061-02	1000.00	1.00	01/30/06 10:12	CEC	EPA 3510C
CA LUFT	6014958	NPA3061-03	1000.00	1.00	01/30/06 10:12	CEC	EPA 3510C
CA LUFT	6014958	NPA3061-04	1000.00	1.00	01/30/06 10:12	CEC	EPA 3510C
CA LUFT	6014958	NPA3061-05	1000.00	1.00	01/30/06 10:12	CEC	EPA 3510C
CA LUFT	6014958	NPA3061-06	1000.00	1.00	01/30/06 10:12	CEC	EPA 3510C
CA LUFT	6014958	NPA3061-07	1000.00	1.00	01/30/06 10:12	CEC	EPA 3510C

Client	ERI Lake Forest (10203)	Work Order:	NPA3061
	4320372 North Sea Circle	Project Name:	Exxon(06) 18-MLJ PO:4506814307
	Lake Forest, CA 92630	Project Number:	ERI 3163 13
Attn	George Salley	Received:	01/28/06 08:00

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Alcohols by EPA Method 8015 modified						
6015115-BLK1						
Methanol	<1000		ug/L	6015115	6015115-BLK1	01/31/06 13:37
<i>Surrogate: Isopropyl Acetate</i>	87%			6015115	6015115-BLK1	01/31/06 13:37
Volatile Organic Compounds by EPA Method 8260B						
6020443-BLK1						
Tert-Amyl Methyl Ether	<0.200		ug/L	6020443	6020443-BLK1	02/04/06 19:41
Benzene	<0.200		ug/L	6020443	6020443-BLK1	02/04/06 19:41
Ethanol	<30.7		ug/L	6020443	6020443-BLK1	02/04/06 19:41
Ethyl tert-Butyl Ether	<0.200		ug/L	6020443	6020443-BLK1	02/04/06 19:41
Diisopropyl Ether	<0.200		ug/L	6020443	6020443-BLK1	02/04/06 19:41
Ethylbenzene	<0.200		ug/L	6020443	6020443-BLK1	02/04/06 19:41
Methyl tert-Butyl Ether	<0.200		ug/L	6020443	6020443-BLK1	02/04/06 19:41
Toluene	<0.200		ug/L	6020443	6020443-BLK1	02/04/06 19:41
Tertiary Butyl Alcohol	<5.06		ug/L	6020443	6020443-BLK1	02/04/06 19:41
Xylenes, total	<0.350		ug/L	6020443	6020443-BLK1	02/04/06 19:41
<i>Surrogate: 1,2-Dichloroethane-d4</i>	94%			6020443	6020443-BLK1	02/04/06 19:41
<i>Surrogate: Dibromofluoromethane</i>	99%			6020443	6020443-BLK1	02/04/06 19:41
<i>Surrogate: Toluene-d8</i>	96%			6020443	6020443-BLK1	02/04/06 19:41
<i>Surrogate: 4-Bromofluorobenzene</i>	100%			6020443	6020443-BLK1	02/04/06 19:41
6020443-BLK2						
Tert-Amyl Methyl Ether	<0.200		ug/L	6020443	6020443-BLK2	02/03/06 19:13
Benzene	<0.200		ug/L	6020443	6020443-BLK2	02/03/06 19:13
Ethanol	<30.7		ug/L	6020443	6020443-BLK2	02/03/06 19:13
Ethyl tert-Butyl Ether	<0.200		ug/L	6020443	6020443-BLK2	02/03/06 19:13
Diisopropyl Ether	<0.200		ug/L	6020443	6020443-BLK2	02/03/06 19:13
Ethylbenzene	<0.200		ug/L	6020443	6020443-BLK2	02/03/06 19:13
Methyl tert-Butyl Ether	<0.200		ug/L	6020443	6020443-BLK2	02/03/06 19:13
Toluene	<0.200		ug/L	6020443	6020443-BLK2	02/03/06 19:13
Tertiary Butyl Alcohol	<5.06		ug/L	6020443	6020443-BLK2	02/03/06 19:13
Xylenes, total	<0.350		ug/L	6020443	6020443-BLK2	02/03/06 19:13
<i>Surrogate: 1,2-Dichloroethane-d4</i>	95%			6020443	6020443-BLK2	02/03/06 19:13
<i>Surrogate: Dibromofluoromethane</i>	100%			6020443	6020443-BLK2	02/03/06 19:13
<i>Surrogate: Toluene-d8</i>	96%			6020443	6020443-BLK2	02/03/06 19:13
<i>Surrogate: 4-Bromofluorobenzene</i>	101%			6020443	6020443-BLK2	02/03/06 19:13
6021060-BLK1						
Tert-Amyl Methyl Ether	<0.200		ug/L	6021060	6021060-BLK1	02/06/06 13:57
Ethyl tert-Butyl Ether	<0.200		ug/L	6021060	6021060-BLK1	02/06/06 13:57
Diisopropyl Ether	<0.200		ug/L	6021060	6021060-BLK1	02/06/06 13:57
Methyl tert-Butyl Ether	<0.200		ug/L	6021060	6021060-BLK1	02/06/06 13:57
Tertiary Butyl Alcohol	<5.06		ug/L	6021060	6021060-BLK1	02/06/06 13:57

Client	ERI Lake Forest (10203) 4320372 North Sea Circle Lake Forest, CA 92630	Work Order:	NPA3061
Attn	George Salley	Project Name:	Exxon(06) 18-MLJ PO:4506814307
		Project Number:	ERI 3163 13
		Received:	01/28/06 08:00

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B						
6021060-BLK1						
<i>Surrogate: 1,2-Dichloroethane-d4</i>	92%			6021060	6021060-BLK1	02/06/06 13:57
<i>Surrogate: Dibromoformomethane</i>	102%			6021060	6021060-BLK1	02/06/06 13:57
<i>Surrogate: Toluene-d8</i>	94%			6021060	6021060-BLK1	02/06/06 13:57
<i>Surrogate: 4-Bromofluorobenzene</i>	97%			6021060	6021060-BLK1	02/06/06 13:57
Extractable Petroleum Hydrocarbons						
6014958-BLK1						
Diesel range organics	<33.0		ug/L	6014958	6014958-BLK1	01/31/06 19:59
<i>Surrogate: o-Terphenyl</i>	86%			6014958	6014958-BLK1	01/31/06 19:59
Purgeable Petroleum Hydrocarbons						
6015163-BLK1						
GRO (C4-C12)	<40.0		ug/L	6015163	6015163-BLK1	02/01/06 14:42
<i>Surrogate: a,a,a-Trifluorotoluene</i>	79%			6015163	6015163-BLK1	02/01/06 14:42
6015213-BLK1						
GRO (C4-C12)	<33.0		ug/L	6015213	6015213-BLK1	02/02/06 01:18
<i>Surrogate: a,a,a-Trifluorotoluene</i>	80%			6015213	6015213-BLK1	02/02/06 01:18

Client ERI Lake Forest (10203)
4320372 North Sea Circle
Lake Forest, CA 92630
Attn George Salley

Work Order: NPA3061
Project Name: Exxon(06) 18-MLJ PO:4506814307
Project Number: ERJ 3163 13
Received: 01/28/06 08:00

PROJECT QUALITY CONTROL DATA LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Alcohols by EPA Method 8015 modified								
601515-BS1								
Methanol	50000	48000		ug/L	96%	69 - 125	6015115	01/31/06 13:57
<i>Surrogate: Isopropyl Acetate</i>	50000	42600			85%	50 - 150	6015115	01/31/06 13:57
Volatile Organic Compounds by EPA Method 8260B								
6020443-BS1								
Tert-Amyl Methyl Ether	50.0	57.5		ug/L	115%	56 - 145	6020443	02/04/06 18:41
Benzene	50.0	54.7		ug/L	109%	79 - 123	6020443	02/04/06 18:41
Ethanol	5000	5250		ug/L	105%	48 - 164	6020443	02/04/06 18:41
Ethyl tert-Butyl Ether	50.0	56.6		ug/L	113%	64 - 141	6020443	02/04/06 18:41
Diisopropyl Ether	50.0	54.9		ug/L	110%	73 - 135	6020443	02/04/06 18:41
Ethylbenzene	50.0	55.3		ug/L	111%	79 - 125	6020443	02/04/06 18:41
Methyl tert-Butyl Ether	50.0	55.7		ug/L	111%	66 - 142	6020443	02/04/06 18:41
Toluene	50.0	53.1		ug/L	106%	78 - 122	6020443	02/04/06 18:41
Tertiary Butyl Alcohol	500	466		ug/L	93%	42 - 154	6020443	02/04/06 18:41
Xylenes, total	150	162		ug/L	108%	79 - 130	6020443	02/04/06 18:41
<i>Surrogate: 1,2-Dichloroethane-d4</i>	50.0	46.5			93%	70 - 130	6020443	02/04/06 18:41
<i>Surrogate: 1,2-Dichloroethane-d4</i>	50.0	46.5			93%	70 - 130	6020443	02/04/06 18:41
<i>Surrogate: Dibromoformmethane</i>	50.0	50.4			101%	79 - 122	6020443	02/04/06 18:41
<i>Surrogate: Dibromoformmethane</i>	50.0	50.4			101%	79 - 122	6020443	02/04/06 18:41
<i>Surrogate: Toluene-d8</i>	50.0	48.5			97%	78 - 121	6020443	02/04/06 18:41
<i>Surrogate: Toluene-d8</i>	50.0	48.5			97%	78 - 121	6020443	02/04/06 18:41
<i>Surrogate: 4-Bromofluorobenzene</i>	50.0	47.0			94%	78 - 126	6020443	02/04/06 18:41
<i>Surrogate: 4-Bromofluorobenzene</i>	50.0	47.0			94%	78 - 126	6020443	02/04/06 18:41
6020443-BS2								
Tert-Amyl Methyl Ether	50.0	46.0		ug/L	92%	56 - 145	6020443	02/03/06 17:43
Benzene	50.0	44.1		ug/L	88%	79 - 123	6020443	02/03/06 17:43
Ethanol	5000	4000		ug/L	80%	48 - 164	6020443	02/03/06 17:43
Ethyl tert-Butyl Ether	50.0	46.5		ug/L	93%	64 - 141	6020443	02/03/06 17:43
Diisopropyl Ether	50.0	43.9		ug/L	88%	73 - 135	6020443	02/03/06 17:43
Ethylbenzene	50.0	45.0		ug/L	90%	79 - 125	6020443	02/03/06 17:43
Methyl tert-Butyl Ether	50.0	44.9		ug/L	90%	66 - 142	6020443	02/03/06 17:43
Toluene	50.0	42.8		ug/L	86%	78 - 122	6020443	02/03/06 17:43
Tertiary Butyl Alcohol	500	394		ug/L	79%	42 - 154	6020443	02/03/06 17:43
Xylenes, total	150	132		ug/L	88%	79 - 130	6020443	02/03/06 17:43
<i>Surrogate: 1,2-Dichloroethane-d4</i>	50.0	46.3			93%	70 - 130	6020443	02/03/06 17:43
<i>Surrogate: 1,2-Dichloroethane-d4</i>	50.0	46.3			93%	70 - 130	6020443	02/03/06 17:43
<i>Surrogate: Dibromoformmethane</i>	50.0	49.2			98%	79 - 122	6020443	02/03/06 17:43
<i>Surrogate: Dibromoformmethane</i>	50.0	49.2			98%	79 - 122	6020443	02/03/06 17:43
<i>Surrogate: Toluene-d8</i>	50.0	48.4			97%	78 - 121	6020443	02/03/06 17:43
<i>Surrogate: Toluene-d8</i>	50.0	48.4			97%	78 - 121	6020443	02/03/06 17:43
<i>Surrogate: 4-Bromofluorobenzene</i>	50.0	47.3			95%	78 - 126	6020443	02/03/06 17:43

Client ERI Lake Forest (10203)
 4320372 North Sea Circle
 Lake Forest, CA 92630
 Attn George Salley

Work Order: NPA3061
 Project Name: Exxon(06) 18-MLJ PO:4506814307
 Project Number: ERI 3163 13
 Received: 01/28/06 08:00

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Batch	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B								
6020443-BS2								
<i>Surrogate: 4-Bromo Fluorobenzene</i>	50.0	47.3			95%	78 - 126	6020443	02/03/06 17:43
6021060-BS1								
Tert-Amyl Methyl Ether	50.0	52.5	MNR1	ug/L	105%	56 - 145	6021060	02/06/06 12:57
Ethyl tert-Butyl Ether	50.0	51.2	MNR1	ug/L	102%	64 - 141	6021060	02/06/06 12:57
Diisopropyl Ether	50.0	45.3	MNR1	ug/L	91%	73 - 135	6021060	02/06/06 12:57
Methyl tert-Butyl Ether	50.0	51.5	MNR1	ug/L	103%	66 - 142	6021060	02/06/06 12:57
Tertiary Butyl Alcohol	500	422	MNR1	ug/L	84%	42 - 154	6021060	02/06/06 12:57
<i>Surrogate: 1,2-Dichloroethane-d4</i>	50.0	44.8			90%	70 - 130	6021060	02/06/06 12:57
<i>Surrogate: Dibromo Fluoromethane</i>	50.0	50.7			101%	79 - 122	6021060	02/06/06 12:57
<i>Surrogate: Toluene-d8</i>	50.0	47.6			95%	78 - 121	6021060	02/06/06 12:57
<i>Surrogate: 4-Bromo Fluorobenzene</i>	50.0	47.8			96%	78 - 126	6021060	02/06/06 12:57
Extractable Petroleum Hydrocarbons								
6014958-BS1								
Diesel range organics	1000	753		ug/L	75%	49 - 118	6014958	01/31/06 20:17
<i>Surrogate: o-Terphenyl</i>	20.0	18.0			90%	55 - 150	6014958	01/31/06 20:17
Purgeable Petroleum Hydrocarbons								
6015163-BS1								
GRO (C4-C12)	1000	1080		ug/L	108%	66 - 132	6015163	02/01/06 23:32
<i>Surrogate: a,a,a-Trifluorotoluene</i>	30.0	32.7			109%	63 - 134	6015163	02/01/06 23:32
6015213-BS1								
GRO (C4-C12)	1000	1110		ug/L	111%	66 - 130	6015213	02/02/06 14:15
<i>Surrogate: a,a,a-Trifluorotoluene</i>	30.0	25.8			86%	63 - 134	6015213	02/02/06 14:15

Client	ERI Lake Forest (10203) 4320372 North Sea Circle Lake Forest, CA 92630	Work Order:	NPA3061
		Project Name:	Exxon(06) 18-MLJ PO:4506814307
Attn	George Salley	Project Number:	ERI 3163 13
		Received:	01/28/06 08:00

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec.	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Alcohols by EPA Method 8015 modified										
6015115-MS1										
Methanol	1000	46600		ug/L	50000	93%	52 - 133	6015115	NPA2990-01	01/31/06 13:44
<i>Surrogate: Isopropyl Acetate</i>		40800		ug/L	50000	82%	50 - 150	6015115	NPA2990-01	01/31/06 13:44
Volatile Organic Compounds by EPA Method 8260B										
6020443-MS1										
Tert-Amyl Methyl Ether	79.4	135		ug/L	50.0	111%	45 - 155	6020443	NPA3066-05	02/04/06 04:13
Benzene	1.00E9	1460	MHA	ug/L	50.0	2000000000%	71 - 137	6020443	NPA3066-05	02/04/06 04:13
Ethanol		4850		ug/L	5000	97%	36 - 177	6020443	NPA3066-05	02/04/06 04:13
Ethyl tert-Butyl Ether		59.6		ug/L	50.0	119%	57 - 148	6020443	NPA3066-05	02/04/06 04:13
Diisopropyl Ether		53.3		ug/L	50.0	107%	67 - 143	6020443	NPA3066-05	02/04/06 04:13
Ethylbenzene	1.00E9	907	MHA	ug/L	50.0	2000000000%	72 - 139	6020443	NPA3066-05	02/04/06 04:13
Methyl tert-Butyl Ether	1.00E9	287	MHA	ug/L	50.0	2000000000%	55 - 152	6020443	NPA3066-05	02/04/06 04:13
Toluene	1.00E9	1150	MHA	ug/L	50.0	2000000000%	73 - 133	6020443	NPA3066-05	02/04/06 04:13
Tertiary Butyl Alcohol		1650	MHA	ug/L	500	330%	19 - 183	6020443	NPA3066-05	02/04/06 04:13
Xylenes, total	1.00E9	1.00E9	MHA	ug/L	150	0%	70 - 143	6020443	NPA3066-05	02/04/06 04:13
<i>Surrogate: 1,2-Dichloroethane-d4</i>		45.8		ug/L	50.0	92%	70 - 130	6020443	NPA3066-05	02/04/06 04:13
<i>Surrogate: 1,2-Dichloroethane-d4</i>		45.8		ug/L	50.0	92%	70 - 130	6020443	NPA3066-05	02/04/06 04:13
<i>Surrogate: Dibromoformmethane</i>		48.9		ug/L	50.0	98%	79 - 122	6020443	NPA3066-05	02/04/06 04:13
<i>Surrogate: Dibromoformmethane</i>		48.9		ug/L	50.0	98%	79 - 122	6020443	NPA3066-05	02/04/06 04:13
<i>Surrogate: Toluene-d8</i>		48.8		ug/L	50.0	98%	78 - 121	6020443	NPA3066-05	02/04/06 04:13
<i>Surrogate: Toluene-d8</i>		48.8		ug/L	50.0	98%	78 - 121	6020443	NPA3066-05	02/04/06 04:13
<i>Surrogate: 4-Bromofluorobenzene</i>		51.8		ug/L	50.0	104%	78 - 126	6020443	NPA3066-05	02/04/06 04:13
<i>Surrogate: 4-Bromofluorobenzene</i>		51.8		ug/L	50.0	104%	78 - 126	6020443	NPA3066-05	02/04/06 04:13

Client ERI Lake Forest (10203)
 4320372 North Sea Circle
 Lake Forest, CA 92630

Attn George Salley

Work Order: NPA3061
 Project Name: Exxon(06) 18-MLJ PO:4506814307
 Project Number: ERI 3163 13
 Received: 01/28/06 08:00

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Alcohols by EPA Method 8015 modified												
6015115-MSD1												
Methanol	1000	47000		ug/L	50000	94%	52 - 133	0.9	34	6015115	NPA2990-01	01/31/06 13:50
<i>Surrogate: Isopropyl Acetate</i>		40400		ug/L	50000	81%	50 - 150			6015115	NPA2990-01	01/31/06 13:50
Volatile Organic Compounds by EPA Method 8260B												
6020443-MSD1												
Tert-Amyl Methyl Ether	79.4	128		ug/L	50.0	97%	45 - 155	5	24	6020443	NPA3066-05	02/04/06 04:43
Benzene	1.00E9	1360	MHA	ug/L	50.0	0000000	71 - 137	7	23	6020443	NPA3066-05	02/04/06 04:43
Ethanol		4240		ug/L	5000	85%	36 - 177	13	45	6020443	NPA3066-05	02/04/06 04:43
Ethyl tert-Butyl Ether		52.6		ug/L	50.0	105%	57 - 148	12	22	6020443	NPA3066-05	02/04/06 04:43
Diisopropyl Ether		47.5		ug/L	50.0	95%	67 - 143	12	22	6020443	NPA3066-05	02/04/06 04:43
Ethylbenzene	1.00E9	845	MHA	ug/L	50.0	0000000	72 - 139	7	23	6020443	NPA3066-05	02/04/06 04:43
Methyl tert-Butyl Ether	1.00E9	272	MHA	ug/L	50.0	0000000	55 - 152	5	27	6020443	NPA3066-05	02/04/06 04:43
Toluene	1.00E9	1070	MHA	ug/L	50.0	0000000	73 - 133	7	25	6020443	NPA3066-05	02/04/06 04:43
Tertiary Butyl Alcohol		1470	MHA	ug/L	500	294%	19 - 183	12	39	6020443	NPA3066-05	02/04/06 04:43
Xylenes, total	1.00E9	1.00E9	MHA	ug/L	150	0%	70 - 143	0	27	6020443	NPA3066-05	02/04/06 04:43
<i>Surrogate: 1,2-Dichloroethane-d4</i>		45.6		ug/L	50.0	91%	70 - 130			6020443	NPA3066-05	02/04/06 04:43
<i>Surrogate: 1,2-Dichloroethane-d4</i>		45.6		ug/L	50.0	91%	70 - 130			6020443	NPA3066-05	02/04/06 04:43
<i>Surrogate: Dibromoiodomethane</i>		49.6		ug/L	50.0	99%	79 - 122			6020443	NPA3066-05	02/04/06 04:43
<i>Surrogate: Dibromoiodomethane</i>		49.6		ug/L	50.0	99%	79 - 122			6020443	NPA3066-05	02/04/06 04:43
<i>Surrogate: Toluene-d8</i>		49.0		ug/L	50.0	98%	78 - 121			6020443	NPA3066-05	02/04/06 04:43
<i>Surrogate: Toluene-d8</i>		49.0		ug/L	50.0	98%	78 - 121			6020443	NPA3066-05	02/04/06 04:43
<i>Surrogate: 4-Bromofluorobenzene</i>		52.2		ug/L	50.0	104%	78 - 126			6020443	NPA3066-05	02/04/06 04:43
<i>Surrogate: 4-Bromofluorobenzene</i>		52.2		ug/L	50.0	104%	78 - 126			6020443	NPA3066-05	02/04/06 04:43

Client ERI Lake Forest (10203)
4320372 North Sea Circle
Lake Forest, CA 92630
Attn George Salley

Work Order: NPA3061
Project Name: Exxon(06) 18-MLJ PO:4506814307
Project Number: ERI 3163 13
Received: 01/28/06 08:00

CERTIFICATION SUMMARY

TestAmerica Analytical - Nashville

Method	Matrix	AIHA	Nelac	California
CA LUFT	Water	N/A	X	X
NA	Water			
SW846 8015B	Water	N/A	X	X
SW846 8260B	Water	N/A	X	X

Client ERI Lake Forest (10203)
4320372 North Sea Circle
Lake Forest, CA 92630
Attn George Salley

Work Order: NPA3061
Project Name: Exxon(06) 18-MLJ PO:4506814307
Project Number: ERI 3163 13
Received: 01/28/06 08:00

NELAC CERTIFICATION SUMMARY

TestAmerica Analytical - Nashville does not hold NELAC certifications for the following analytes included in this report

<u>Method</u>	<u>Matrix</u>	<u>Analyte</u>
SW846 8260B	Water	Diisopropyl Ether

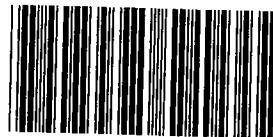
Client ERI Lake Forest (10203)
4320372 North Sea Circle
Lake Forest, CA 92630
Attn George Salley

Work Order: NPA3061
Project Name: Exxon(06) 18-MLJ PO:4506814307
Project Number: ERI 3163 13
Received: 01/28/06 08:00

DATA QUALIFIERS AND DEFINITIONS

- J** Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
- MHA** Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike.

METHOD MODIFICATION NOTES



COOLER RECEIPT FORM

BC#

NPA3061

Client Name : ERI

Cooler Received/Opened On: 1/28/2006 Accessed By: David Zeman

DZ
Log-in Personnel Signature

1. Temperature of Cooler when triaged: 0.2 Degrees Celsius
2. Were custody seals on outside of cooler? YES...NO...NA
a. If yes, how many and where: 1 Fr
3. Were custody seals on containers? NO...YES...NA
4. Were the seals intact, signed, and dated correctly? YES...NO...NA
5. Were custody papers inside cooler? YES...NO...NA
6. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA
7. Did you sign the custody papers in the appropriate place? YES...NO...NA
8. What kind of packing material used? Bubblewrap Peanuts Vermiculite Foam Insert

Ziplock baggies	Paper	Other	None
-----------------	-------	-------	------
9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None
*K 26 - Hwy
VOA (BIS)*
10. Did all containers arrive in good condition (unbroken)? YES...NO...NA
11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA
12. Did all container labels and tags agree with custody papers? YES...NO...NA
13. Were correct containers used for the analysis requested? YES...NO...NA
14. a. Were VOA vials received? YES...NO...NA
b. Was there any observable head space present in any VOA vial? NO...YES...NA
15. Was sufficient amount of sample sent in each container? YES...NO...NA
16. Were correct preservatives used? YES...NO...NA

If not, record standard ID of preservative used here _____

17. Was residual chlorine present? NO...YES...NA
18. Indicate the Airbill Tracking Number (last 4 digits for Fedex only) and Name of Courier below:

3052

Fed-Ex UPS Velocity DHL Route Off-street Misc.

19. If a Non-Conformance exists, see attached or comments below:

PURGING AND SAMPLING RECORD - FIELD LOG

CLIENT NAME: EXXONMOBIL 18MLJ			ERI JOB # 3163 13			0.163 FOR A 2" WELL		
SITE LOCATION: 5005 N. LONG BEACH BLVD			ANALYSIS: TPHg/8260B			0.652 FOR A 4" WELL		
FIELD CREW: ER			TPHd			1.167 FOR A 6" WELL		
WELL #	TIME	DEPTH TO WATER	DEPTH TO WELL	CASE DIA	CASE VOL(gal)	PRG VOL	COND.	TEMP pH
MW7	7:30 AM	27.65	48.38	4	13.53	42		
	7:50 AM					1	2.38	74.2
	7:56 AM					14	2.36	74.0
	8:03 AM					28	2.34	73.9
	8:10 AM					42	2.33	73.8
SW	8:25 AM	28.62						7.39
COMMENTS	Water Cloudy							
WELL #	TIME	DEPTH TO WATER	DEPTH TO WELL	CASE DIA	CASE VOL	PRG VOL	COND.	TEMP pH
MW1	7:33 AM	27.74	49.56	4	14.24	42		
	7:52 AM					1	2.45	74.5
	7:58 AM					14	2.40	74.2
	8:05 AM					28	2.38	74.2
	8:12 AM					42	2.39	74.3
SW	8:30 AM	28.69						7.78
COMMENTS	Water Clear							
WELL #	TIME	DEPTH TO WATER	DEPTH TO WELL	CASE DIA	CASE VOL	PRG VOL	COND.	TEMP pH
MW3	7:36 AM	27.45	49.67	4	14.5042	45		
	7:54 AM					1	3.12	74.2
	8:01 AM					15	3.10	74.0
	8:09 AM					30	3.08	73.8
	8:18 AM					45	3.02	73.7
SW	8:35 AM	28.53						7.60
COMMENTS	Water Clear							
WELL #	TIME	DEPTH TO WATER	DEPTH TO WELL	CASE DIA	CASE VOL	PRG VOL	COND.	TEMP pH
MW5	9:35 AM	25.91	47.39	4	14.02	42		
	9:37 AM					1	2.63	74.5
	9:43 AM					14	2.62	74.2
	9:50 AM					28	2.60	74.6
	9:57 AM					42	2.58	74.3
SW	10:05 AM	26.92						7.34
COMMENTS	Water Cloudy							

PURGING AND SAMPLING RECORD - FIELD LOG										
CLIENT NAME: EXXONMOBIL 18MLJ				ERI JOB # 3163 13			0.163 FOR A 2" WELL			
SITE LOCATION: 5005 N. LONG BEACH BLVD				ANALYSIS: TPHg/8260B			0.652 FOR A 4" WELL			
FIELD CREW: ER 6A DATE: 01/26/06				TPHd			1.167 FOR A 6" WELL			
WELL #	TIME	DEPTH TO WATER	DEPTH TO WELL	CASE	CASE	PRG	COND.	TEMP	pH	
MW4	9:38 AM	26.06	48.05	4	14.35	42				
	10:00 AM					1	2.32	74.2	8.05	
	10:04 AM					14	2.30	74.3	8.06	
	10:08 AM					28	2.28	74.0	8.02	
	10:12 AM					42	2.29	73.8	8.01	
SW	3:05 PM	27.05								
COMMENTS	Overpurged Well 5 hrs - 690 Gallons Water cloudy									
WELL #	TIME	DEPTH TO WATER	DEPTH TO WELL	CASE	CASE	PRG	COND.	TEMP	pH	
MW6	7:39 AM	26.27	48.41	4	14.45	42				
	8:45 AM					1	2.24	74.6	7.35	
	8:51 AM					14	2.22	74.3	7.32	
	8:58 AM					28	2.20	74.2	7.30	
	9:05 AM					42	2.19	74.1	7.29	
SW	9:30 AM	27.85								
COMMENTS	Water Cloudy									
WELL #	TIME	DEPTH TO WATER	DEPTH TO WELL	CASE	CASE	PRG	COND.	TEMP	pH	
MW2	7:42 AM	26.47	50.75	4	15.85	48				
	8:47 AM					1	2.4	73.3	7.09	
	8:55 AM					16	2.42	73.5	7.05	
	8:09 AM					32	2.41	73.2	7.06	
	9:18 AM					48	2.40	73.0	7.04	
SW	9:35 AM	27.56								
COMMENTS	Water Clear									
WELL #	TIME	DEPTH TO WATER	DEPTH TO WELL	CASE	CASE	PRG	COND.	TEMP	pH	
				4	0					
SW										
COMMENTS:										

SOP-5
WELL SAMPLING & SURVEYING
Rev 6/05

WELL SAMPLING AND SURVEYING

- 1) Open well heads. This may require a socket or a special Allen wrench.
- 2) If the wells are not surveyed by a licensed land surveyor, then survey the wells if this hasn't been done before as follows:
 - a) Select a permanent benchmark (e.g. curb at corner of site, property line). Record on "SURVEYGW" form.
 - b) Measure and record rectangular coordinates from benchmark to each well.
 - c) Set up tripod and transit where it can see all wells and the benchmark = Station "A". If you can't see all wells, two transit locations must be used. At least one well surveyed from Station "A" must be resurveyed from Station "B". Preferably, two or more wells are resurveyed.
 - d) Carefully level the tripod using the bubble indicator.
 - e) Place stadia rod on benchmark and record height from crosshair to reference, (D_o).
 - f) Place stadia rod on each well (at the notch) and record ht. from well to crosshair, (D_w).
 - g) Calculate casing elevation as shown on data sheet SURVEYGW.

To check the accuracy in leveling the transit, set the transit in second spot and repeat steps 2c through 2g. Recalculation of casing elevations should agree within 0.01 ft. or a third placement of the tripod will be required.

- 3) Set up a decon station. This consists of four (4) buckets. Fill the first with deionized water and one (1) teaspoon (approximately one cap full) of Liquinox soap. Fill the next three (3) buckets with deionized water. To decon a probe or water level indicator, place the element and the tape in the buckets in series, finishing with a good rise. To decon a pump, place the pump, hose and wire leads into the buckets in series, and circulate water through the pump in each bucket. Move the equipment from the dirtiest to cleanest bucket, rinsing thoroughly in each bucket.
- 4) Decon the interface probe or water level indicator before inserting into each well. Review the historical groundwater concentrations and sample from cleanest well to hottest well, deconing between each well. Lower probe/indicator until it beeps - raise and lower and mark the level on the tape with your thumb. Estimate level to the nearest 0.01 ft. Note the depth to free product if present as indicated by the interface probe and the depth to water on your field notes and log. Note any odor when the probe is withdrawn from the well. Look for the notch or ink mark on the top of the well and measure all levels from that. Notch should be on the highest side of the well pipe. If no side is high, notch should be on the north side. Measure from the casing adjacent to the notch - not from the bottom of the notch. If there is no notch - make one. For sites that have free product, or historically have had free product, use a bailer to remove a sample of the top of the water column and measure the product in the bailer or look for a sheen. Take a picture of any bailers with product after labeling the bailer with the well number.
- 5) If there is free product, do not purge or sample. The presence of liquid phase hydrocarbons means the concentration in the water will be high anyway and the pump will be difficult to get clean enough to avoid contaminating other wells.
- 6) Developing: If the well has not been developed (it is new), surge the well by moving bailer up and down vigorously in the well for about 5 minutes. This will wash silt from the sand pack into the well where it can be removed.
- 7) Pull out as much silt as possible by running the bailer all the way to the bottom and withdrawing. Continue bailuting until water is fairly clear or until local regulatory specifications are met. Removal of silt with the bailer will extend the pump life. Contact the Project Manager if water does not clear up by 10 casing volumes.

- 8) Decon pump by washing in TSP/water the rinsing with tap water and rinsing again with deionized water. Then pump clean water through the pump to push out any dirty water.
- 9) **Purging:** Place pump in well about 2 to 5 feet off bottom. Withdraw at least 3 casing volumes from the well, or until temperature, pH and conductivity stabilize (see local regulations). Be careful not to let the pump run dry. If an electric purging pump is used, such as a Grundfos pump, check the water level in the well with the water level indicator and slow pump down when water level is within 2 ft of the pump head. While purging, collect a water sample as often as possible and check for pH, conductivity, and temperature. Stable pH and conductivity would indicate the well has been filled with representative groundwater and purging is complete. If well recharges slowly, remove 1.5 casing volumes. Estimate flow rates by recording the time it takes to fill a 5-gallon bucket (1/2 of a 55-gallon barrel, etc.)
- 10) Decon pump thoroughly between each well by repeating step 7.
- 11) Label bottles with a "Sharpie Pen" when they are dry. Label as W-xx-MW_y, where xx is water depth below surface in feet and y is well number (refer to SOP-1).
- 12) After the well has been developed, sample the water using a disposable bailer and surgical gloves to prevent oil from your hands from contaminating the sample. Be sure to leave no headspace or bubbles in any water sample to be tested for volatiles. Wells should be sampled within (24) hours of purging and the well should have recovered to within 80% of its volume before purging. (Slow recharge wells need to be addressed with the Project Manager - and may have to be purged slowly). Gasoline contaminated water requires at least three (3) 40 ml VOA's from each well. Preserve samples by acidifying to pH <2 (usually with two drops of HCl). Water suspected of contamination with oil or diesel requires 2 1-liter samples in amber bottles. Samples contaminated with oil will require 10 drops of H₂SO₄ for preservation. Samples for organic lead require two (2) 1-liter amber bottles.
- 13) Place like vials in a baggie and label the baggie. Put vials and baggie in an ice chest filled with ice and document samples and analyses required on a chain of custody. Take samples to the laboratory the same day samples are collected if possible, at least within 24 hours.
- 14) Clean wellhead gaskets (seals), put locking caps on the wells and replace the covers. Cover and label the drums (if any) of purge and decon water.

<u>Analysis</u>	<u>Bottles</u>	<u>Preservative</u>
8015 mod gasoline/8020(602)	min. of 3 x 40 ml VOA	2 drops HCl to pH <2
8015 mod diesel/8020(602)	2 1-liter & 3 x 40 ml VOA	2 drops HCl to pH <2 (applied to VOA's)
418.1 (TRPH)	2 1-liter amber	10 drops H ₂ SO ₄ to pH <2
Organic Lead	2 1-liter amber	no preservative suggested
HOC - 8010 (601)	min. of 3 x 40 ml VOA	no preservative suggested

Items Needed:

Water Level Indicator
 Disposable Bailers
 Generator
 Grundfos Pump and Reel
 Grundfos Pump Control Box
 Hydac Cond/Temp/pH Meter
 Liter Bottles
 VOAs

Items Needed for Surveying:

Topcon AT-F7 Transit
 Tripod
 Stadia Rod

SOP 6
Quarterly Well Monitoring
Rev 6/05

QUARTERLY WELL MONITORING

- 1) Give the site manager advance notification of field activities. Arrange for a sufficient number of drums. Obtain a site plan with the location and ID's of the wells to be monitored and a copy of the table from the last quarterly report with the previous groundwater data.
- 2) Open well heads. This may require a socket or a special allen wrench.
- 3) Set up decon station per SOP-5. Measure groundwater depths with water level indicator as per SOP-5 before any other action is taken. If the depth to the bottom of the monitoring well is unknown, reel out the water level indicator until you feel the probe contact the bottom. You may have to raise and lower the probe several times to "feel" contact with the bottom. The probe is not very heavy, and the bottom of the well may have a cushioning layer of silt. Record the depth of the well once you feel confident the probe is at the bottom. Note odors from well.
- 4) Calculate the linear footage of water in each well, by subtracting the depth to water from the total well depth. To obtain the casing volume in gallons, multiply the linear footage by a constant for the given well casing diameter. Typically, three casing volumes are purged from each well prior to sampling. **Always** Round up - if 3.4 gallons, then purge 4 gallons - if 12.1 gallons, then purge 13 gallons.

Casing diameter	Gallons per linear foot
2"	0.17
4"	0.66
6"	1.50
8"	2.60

- 5) After measuring all water levels, begin purging the wells in order of the cleanest to the most contaminated based on last quarter's data. Well purging procedures are outlined in SOP-5. While wells containing free floating product may not be sampled, the project manager may want the free product removed manually by bailer. Check with the project manager before bailing LPH. You may find that for shallow wells, it may be quicker to bail manually rather than set up the pump. Place purge and decon water in a 55-gallon drum or treat on site. Do not mix purge water from different wells in one drum. Record all purge data on Groundwater Sampling Field Logs. Record "LPH" and the thickness in feet and inches (to nearest 1/16 of an inch) in the comments section if a measurable level of LPH present. If non-measurable amount present then record "Sheen" in the comments section.
- 6) When the well has recovered at least 80% of its' original water level, collect samples using a clean, new disposable bailer. Use a new disposable bailer for each well. Make sure the rope or line is tied securely on the bailer, you don't want to go fishing. Sample in order of the cleanest to the most contaminated. If required, collect field (equipment) blanks.
- 7) Trip blanks are a QA/QC procedure that must be collected at every site. Obtain a trip blank from the laboratory. They will make them up for you. The trip blank to taken unopened to the site and is kept with the other samples in the cooler unopened during the day's sampling. Label the bottle as an arbitrary monitoring well. For example: if there are 5 monitoring wells to be sampled at the site, the trip blank should be labeled as if it were a sample from MW6. The trip blank is never opened and it is used to determine if any contaminants are introduced by the laboratory or during transportation of the samples.
- 8) Field (equipment) blanks are a QA/QC procedure to be collected at the project manager's discretion (or always for LACDPW sites). To collect a field blank decon a bailer thoroughly; pour distilled water into the bailer; pour the distilled water from the bailer into appropriate sample bottle(s) for the analysis

to be performed, allow for no headspace; label the bottle as an arbitrary monitoring well. For example: if there are 5 monitoring wells to be sampled at the site plus a trip blank, and a field blank is collected, the field blank should be labeled as if it were a sample from MW7 (the trip blank is MW6). If a disposable bailer is used for sampling, use a new disposable bailer to collect the field blank.

- 9) Label sample containers when they are dry (refer to SOP-1). Place vials from each well in a separate plastic zip lock bag. Put bag in an ice chest and document samples and analyses required on a chain of custody (see attached examples).
- 10) Replace the locking caps, and the covers. Cover and label the drums of waste water. Place the drums on site in a location selected by the site manager. Usually, this will be near a dumpster or in the back, away from public view. Labels should face outward.
- 11) Decon all equipment per SOP-5 before leaving the site.

In general, groundwater sampling will be performed in accordance with LUFT guidelines. Several local agencies require that groundwater sampling occur under slightly different guidelines. Check with the project manager to find out which sites require special groundwater sampling procedures. Typically, the following apply:

Orange County Health Care Agency Requirements

No special requirements. Water sampling will be performed as per the State Water Resources Board's LUFT manual.

LARWQCB Groundwater Requirements

- o Purge a minimum of three well volumes if recovery is fast, or one borehole volume if recovery is slow (water does not recover to 80% of original level within two hours).
- o The last three readings must be within 10% for conductivity, temperature, and pH to show stabilization. This means that all three consecutive readings must be within these limits - the first with the middle, and the first with the last, and the middle with the last. For instance, pH readings of 6.92, 6.95, and 7.00 would be sufficient.
- o Even though there are no guidelines for turbidity, the measurements should be less than 10 NTU, or meet the baseline level established during development, upon completion of purging. Check with project manager if you use the baseline turbidity level.
- o Prior to sampling document recovery time by measuring the water level in each well to prove that at least 80% recovery has occurred.
- o A trip blank must be collected.
- o In the comments column of the chain of custody, write "Prepare laboratory report in WIP format."

San Diego Department of Health Services Groundwater Sampling Requirements

- o SDDHS does not encourage purging wells until dry.
- o Purge one borehole volume of water if recovery is fast, collecting pH/temperature/conductivity measurements while purging, then remove an additional one-half borehole volume of water. If the first and second measurements vary by less than 10%, purging is considered adequate. If not, keep purging water in one-half borehole volume increments until the measurements vary by less than 10%.

- or three borehole volumes have been removed. Obtain three consecutive pH/temperature/conductivity measurements that are within 10% of each other.
- o If recovery is slow (water does not recover to 80% of original level within two hours) purge only one borehole volume of water.
 - o Prior to sampling document recovery time by measuring the water level in each well to prove that at least 80% recovery has occurred.

Ventura County Environmental Health Division
Groundwater Sampling Requirements

- o A trip blank and a duplicate sample must be analyzed for each site.
- o Custody seals must be placed over the cap of each sample.

Under certain conditions the calculated purge volumes will need to be calculated in borehole volumes instead of well casings volumes. Use the following to calculate borehole volume in gallons.

<u>Well I.D.</u>	<u>Bore Volume</u>
2"	0.90 gal/ft. in water.
4"/or nested wells	1.70 gal/ft. in water

The completed groundwater sampling log must contain:

- pH/temp./conductivity and turbidity measurements indicating stabilization
- time and volume of water removed at each pH/temp./conductivity measurements
- total volume of water purged
- name of personnel performing sampling
- date and project number
- problems or unusual conditions arising during purging or sampling, such as the well going dry during purging, water in the well vault, missing well caps or locks, odors, appearance of purge water, etc.
- 80% recovery measurement and time of measurement after purging and before sampling

All chains of custody for the client's groundwater sites must contain the consultant work release number, station identification number and client contact among the other items to be filled out. Check the groundwater sampling field log and chain of custody for completeness, accuracy and neatness. If you have any questions, call!!!

Make sure that the date and time of relinquished and accepted at the lab are the same on the chain of custody. Also, make sure the lab fills in the sample condition information and signs for the samples on the chain of custody

Santa Barbara County Environmental Health Services
Groundwater Monitoring Guidelines

- I. Groundwater Monitoring
 - A. Groundwater levels are to be monitored/measured in all wells in a short time span.
 - B. Measure the groundwater levels (correct for "free product" thickness).
 - C. Use a clear bailer to check for the presence of "floating product," sheen, and odors.
 - D. Replace well cover until ready to purge well.
- II. Purging
 - A. Amount: generally 3 to 5 (no more than 10) well volumes; via bailer, pumps, or vacuum truck.

- B. Parameters (pH, temperature, conductivity) shall stabilize while purging.
 - 1. Measure the parameters of a small volume (i.e., a 500 ml) of the water as it is removed from the well. Measure the parameters initially and at regular volume intervals (e.g., after every well casing volume). More frequent testing may be needed if the well is known to go dry.
 - 2. Wells must be allowed to recharge prior to sampling (see section G of the Santa Barbara County LUFT Manual).
- C. Slow recharging wells are wells that are purged dry before removing 3 well volumes of water, and take more than **two (2)** hours to recharge.
 - 1. Note this on the field records and estimate the number of well volumes removed.
 - 2. Allow the well to recharge a minimum of two (2) feet and then sample.
 - 3. **Sample wells no later than 24 hours after purging.**
 - 4. Note the water level and percentage of recharge in the report.

III. Sample Collection

- A. Use either a decontaminated Teflon, stainless steel, or disposable bailer.
- B. Sample containers are to be supplied and certified by a laboratory:
 - 1. VOAs of 40 ml volume (at least 3 per well – check with lab and the PM for specific requirements); fill VOAs first to reduce volatilization.
 - 2. 4 oz sample containers for Pb (metallic lead) analysis (if needed).
- C. Fill containers by pouring along the inside of the vial to reduce volatilization.
- D. Form a positive meniscus with the water, to avoid trapping air, before placing the cap on the VOA. **Samples with headspace are not acceptable for analysis.**
 - 1. Check for bubbles by inverting and tapping gently to dislodge bubbles.
 - 2. If bubbles are found, uncap and repeat steps C and D.
- E. Label all samples and store immediately in an ice chest at 4 degrees Celsius filled with ice.
- F. Be careful to properly decontaminate equipment between each and every well.